The Badminton Library

OF

SPORTS AND PASTIMES

EDITED BY

HIS GRACE THE DUKE OF BEAUFORT, K.G.

ASSISTED BY ALFRED E. T. WATSON

ARCHERY

ARCHERY

BY

C. J. LONGMAN AND COL. H. WALROND

WITH CONTRIBUTIONS BY

MISS LEGH, VISCOUNT DILLON, MAJOR C. HAWKINS FISHER
REV. EYRE W. HUSSEY, REV. W. K. R. BEDFORD
J. BALFOUR PAUL, L. W. MAXSON

SIR ASHTON LEVER

WITH NUMEROUS ILLUSTRATIONS

LONDON
LONGMANS, GREEN, AND CO.
1894

All rights reserved

DEDICATION

TO

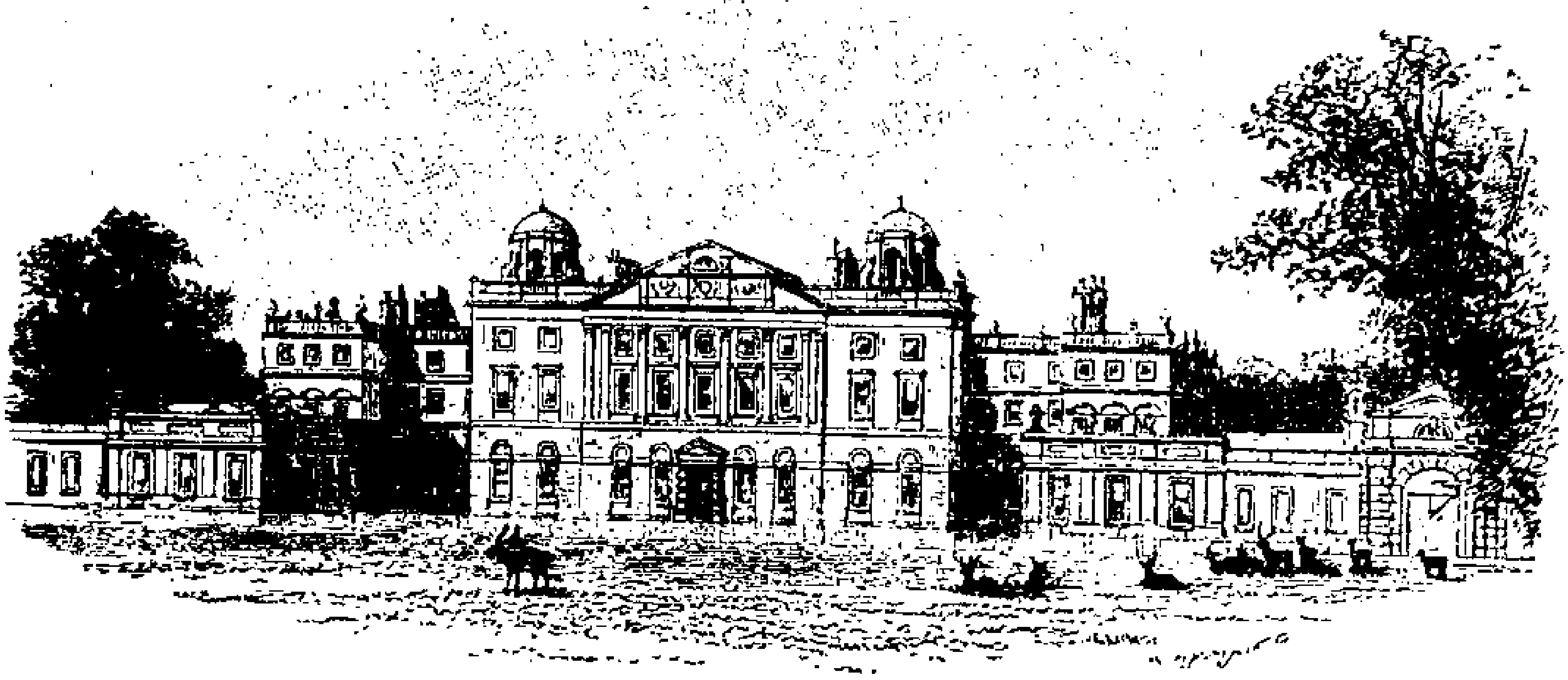
H.R.H. THE PRINCE OF WALES

BADMINTON : *May* 1885.

HAVING received permission to dedicate these volumes, the BADMINTON LIBRARY of SPORTS and PASTIMES, to HIS ROYAL HIGHNESS THE PRINCE OF WALES, I do so feeling that I am dedicating them to one of the best and keenest sportsmen of our time. I can say, from personal observation, that there is no man who can extricate himself from a bustling and pushing crowd of horsemen, when a fox breaks covert, more dexterously and quickly than His Royal Highness; and that when hounds run hard over a big country, no man can take a line of his own and live with them better. Also, when the wind has been blowing hard, often have I seen His Royal Highness knocking over driven grouse and partridges and high-rocketing pheasants in first-rate

workmanlike style. He is held to be a good yachtsman, and as Commodore of the Royal Yacht Squadron is looked up to by those who love that pleasant and exhilarating pastime. His encouragement of racing is well known, and his attendance at the University, Public School, and other important Matches testifies to his being, like most English gentlemen, fond of all manly sports. I consider it a great privilege to be allowed to dedicate these volumes to so eminent a sportsman as His Royal Highness the Prince of Wales, and I do so with sincere feelings of respect and esteem and loyal devotion.

BEAUFORT.



BADMINTON

PREFACE

A FEW LINES only are necessary to explain the object with which these volumes are put forth. There is no modern encyclopædia to which the inexperienced man, who seeks guidance in the practice of the various British Sports and Pastimes, can turn for information. Some books there are on Hunting, some on Racing, some on Lawn Tennis, some on Fishing, and so on; but one Library, or succession of volumes, which treats of the Sports and Pastimes indulged in by Englishmen—and women—is wanting. The Badminton Library is offered to supply the want. Of the imperfections which must be found in the execution of such a design we are

conscious. Experts often differ. But this we may say, that those who are seeking for knowledge on any of the subjects dealt with will find the results of many years' experience written by men who are in every case adepts at the Sport or Pastime of which they write. It is to point the way to success to those who are ignorant of the sciences they aspire to master, and who have no friend to help or coach them, that these volumes are written.

To those who have worked hard to place simply and clearly before the reader that which he will find within, the best thanks of the Editor are due. That it has been no slight labour to supervise all that has been written, he must acknowledge; but it has been a labour of love, and very much lightened by the courtesy of the Publisher, by the unflinching, indefatigable assistance of the Sub-Editor, and by the intelligent and able arrangement of each subject by the various writers, who are so thoroughly masters of the subjects of which they treat. The reward we all hope to reap is that our work may prove useful to this and future generations.

THE EDITOR.

CONTENTS

CHAPTER		PAGE
I.	INTRODUCTORY . . . . *By C. J. Longman*	1
II.	PREHISTORIC ARCHERY . . . . . . *By C. J. Longman*	9
III.	FORMS OF THE BOW, AND THEIR DISTRIBUTION *By C. J. Longman*	23
IV.	NOTES ON ANCIENT ARCHERY . . . . . *By C. J. Longman*	58
V.	ON METHODS OF DRAWING AND LOOSING THE ARROW . . . . *By C. J. Longman*	76
VI.	SAVAGE ARCHERY . . . . *By C. J. Longman*	86
VII.	MILITARY ARCHERY IN THE MIDDLE AGES . . *By Viscount Dillon*	105
VIII.	ARCHERY TACKLE IN THE MIDDLE AGES . . *By Viscount Dillon*	121
IX.	THE DECADENCE OF ARCHERY . . . . . *By Colonel Walrond*	137
X.	ARCHERY AS A PASTIME . . . . . . *By Colonel Walrond*	161
XI.	THE GRAND NATIONAL AND OTHER PUBLIC MEETINGS . . . . *By Colonel Walrond*	182
XII.	SOME OLD ARCHERY SOCIETIES . . . . . *By Colonel Walrond*	202
XIII.	SCOTTISH ARCHERY . . . . *By J. Balfour Paul*	213

CHAPTER PAGE

XIV. THE ROYAL TOXOPHILITE SOCIETY . . . 226
By Colonel Walrond

XV. THE WOODMEN OF ARDEN 242
By the Rev. W. K. R. Bedford

XVI. ARCHERY OF THE PAST—SOME OF ITS ARCHERS AND SOME OF THEIR SCORES 258
By Major C. Hawkins Fisher

XVII. THE BOW 286
By Colonel Walrond

XVIII. THE ARROW 304
By Colonel Walrond

XIX. THE STRING, BRACER, AND OTHER IMPLEMENTS 316
By Colonel Walrond

XX. PRACTICAL INSTRUCTIONS IN SHOOTING . . 331
By the Rev. Eyre W. Hussey

XXI. LADIES' ARCHERY 384
By Alice B. Legh

XXII. ON THE MANAGEMENT OF PUBLIC MEETINGS . 398
By Colonel Walrond

XXIII. ON SCORES 410
By C. J. Longman

XXIV. THE RANGE AND PENETRATION OF THE ENGLISH LONG-BOW 425
By C. J. Longman

XXV. ON ARCHERY PRIZES AND HANDICAPPING . . 436
By C. J. Longman

XXVI. ARCHERY IN THE UNITED STATES 445
By L. W. Maxson

XXVII. BIBLIOGRAPHY, PICTURES, AND PRINTS . . 472
By Colonel Walrond

INDEX 505

ILLUSTRATIONS

(REPRODUCED BY MESSRS. WALKER AND BOUTALL)

PLATES

THE ROYAL BRITISH BOWMEN IN GWYRSYLT PARK (*from a drawing by J. Eames; the figures being by W. Smirke, R.A.*) . . . . *Frontispiece*

FIG TO FACE PAGE

49. ARCHERS AND SHIELD BEARER (*from a sculpture in the British Museum. About* B.C. 884) 58
50. HORSE ARCHERS. *About* B.C. 884 (*from Layard's 'Monuments'*) 59
51. KING ASSHUR-NA-ZIRPAL HUNTING (*from a sculpture in the British Museum. About* B.C. 884) 60
52. KING ASSHUR-NA-ZIRPAL WITH STRUNG BOW (*from a sculpture in the British Museum. About* B.C. 884) . . . 61
56. ASIATIC HUNTING SCENE (*from a stone in the British Museum. About* B.C. 1450) 68
86. INDIAN SHOOTING FISH (*Schoolcraft*) 94
87. JAPANESE DRAWING OF AN AINU DEER HUNT (*from Batchelor's 'Ainus of Japan'*) 96
95. MARTYRDOM OF ST. SEBASTIAN (*fresco at Panicale by Perugino, from the drawing by Signor Mariannecci*) . . 120
104. IRISH ARCHER, 1521 (*from 'Drawings by A. Dürer,' by Dr. F. Lippmann*) 142
119. GRAND NATIONAL ARCHERY MEETING, CHELTENHAM, 1879. ROYAL TOXOPHILITE GROUP 192
120. LEAMINGTON ARCHERY MEETING, 1867 194
121. GRAND WESTERN ARCHERY MEETING, TEIGNMOUTH, 1871 198
123. H.R.H. GEORGE PRINCE OF WALES IN THE UNIFORM OF THE ROYAL KENTISH BOWMEN (*from a print by Bartolozzi*) 208

FIG.		TO FACE PAGE
129.	THE TOXOPHILITE GROUND AT BAYSWATER, 1830 (*from a picture by R. Cruikshank*)	232
131.	INTERIOR OF THE ROYAL TOXOPHILITE SOCIETY'S HALL	234
132.	EXTERIOR OF THE ROYAL TOXOPHILITE SOCIETY'S HALL	238
137.	MR. HORACE A. FORD	262
185.	THE RIGHT WAY: BEFORE (*from an instantaneous photograph of Miss Legh*)	*To face each other between* 368 *and* 369
186.	THE RIGHT WAY: AFTER (*from an instantaneous photograph of Miss Legh*)	
188.	THE LADIES' DAY, ROYAL TOXOPHILITE SOCIETY, JULY 1893	394
190.	MRS. C. BOWLY, CHAMPIONESS, 1893 AND 1894	422
194.	MR. L. W. MAXSON, CHAMPION ARCHER OF THE UNITED STATES OF AMERICA FOR 1888, '89, '90, '91, '92, AND '93	456

ILLUSTRATIONS IN TEXT

FIG.		PAGE
1.	ARROW-HEAD (*from Palæolithic deposit at Solutré*)	13
2, 3, 4.	BOWS FROM ROBENHAUSEN	15
5, 6, 7.	NEOLITHIC BOW	17
8.	LEAF-SHAPED ARROW-HEAD (NEOLITHIC) (*figs.* 8 *to* 13, 15, 17, 19, *from Sir J. Evans' 'Ancient Stone Implements of Great Britain'*)	19
9.	LOZENGE-SHAPED ARROW-HEAD (NEOLITHIC)	19
10.	TANGED ARROW-HEAD (NEOLITHIC)	19
11.	BARBED AND TANGED ARROW-HEAD (NEOLITHIC)	19
12.	TRIANGULAR ARROW-HEAD (NEOLITHIC)	19
13.	SWISS NEOLITHIC ARROW-HEAD, SHOWING ATTACHMENT	20
14.	MODERN CALIFORNIAN ARROW-HEAD, SHOWING ATTACHMENT	20
15.	SCOTCH CHISEL-EDGED ARROW-HEAD	20
16.	ANCIENT EGYPTIAN FLINT ARROW-HEAD	20
17.	TRIANGULAR ARROW-HEAD	21
18.	FOSSIL SHARK'S TOOTH	21
19.	BARBED FLINT ARROW-HEAD	21
20.	FOSSIL SHARK'S TOOTH	21
21.	AFRICAN AND ANCIENT EGYPTIAN BOWS	30
22.	SOUTH AND NORTH ANDAMAN BOWS	32
23.	ANDAMAN ISLANDER BARKING TREE (*from a photograph by Mr. Portman*)	33

FIG. PAGE

24. ROUGHING OUT THE BOW (*from a photograph by Mr. Portman*) 34
25. SHAPING THE BOW (*from a photograph by Mr. Portman*) . 35
26. FINISHING THE BOW ,, ,, ,, . 36
27. STRINGING THE BOW ,, ,, ,, . 37
28. STRAIGHTENING ARROWS ,, ,, ,, . 38
29. OREGON INDIAN BOW 39
30. ESKIMO BOW 39
31. PADDLE-SHAPED BOW FROM THE SHIRÉ RIVER . . . 40
32. NEW HEBRIDES BOW 40
33. END OF TONGAN BOW, WITH ARROW BOUND IN GROOVE 41
34. NEW GUINEA BAMBOO BOW 42
35. VEDDAHS WITH BOWS AND ARROWS (*from a photograph*) . 43
36. AINU BOW AND ARROWS (*from Batchelor's 'Ainus of Japan'*) 44
37. JAPANESE BOW 45
38. JAVAN HORN BOW 49
39. TWO VIEWS OF EASTERN ESKIMO BOW (*Murdoch*) . . 51
40. BACKING ON ESKIMO BOW (*Murdoch*) 53
41. ESKIMO BOW OF TATAR SHAPE (*Murdoch*) 53
42. TWO VIEWS OF BOW FROM EAST SIBERIA (*Murdoch*) . 53
43. ORIENTAL BOWS (CHINESE, TATAR, INDIAN, TURKISH, PERSIAN) 55
44–48. PERSIAN BOW AND SECTIONS (*H. Balfour*) . . . 56
53. EGYPTIAN ARCHER (*about* B.C. 1600) (*from 'Rosellini's Monuments'*) 62
54. COMPOSITE BOW OF THE TIME OF RAMESES II. (*Von Luschan*) 65
55. HITTITE ARCHER (*from a sculpture discovered by Dr. von Luschan*) 67
57. MYCENÆAN SIEGE (*from Gardner's 'New Chapters in Greek History'*) 69
58. GREEK AXE (*from Lang and Butcher's 'Odyssey'*) . . . 73
59. CYDONIAN COIN REPRESENTING APOLLO STRINGING HIS BOW 74
60. ARCHER STRINGING COMPOSITE BOW (*from a Greek vase*) . 74
61. AUXILIARY ARCHERS IN THE ROMAN ARMY 75
62. ANDAMAN ISLANDER SCRAPING AN ARROW (*from a photograph by Mr. Portman*) 77
63. ANDAMAN ISLANDER MAKING A NOCK (*from a photograph by Mr. Portman*) 77
64. KNOBBED ARROW FROM OREGON (*Morse*) 77
65, 66. SECONDARY LOOSE (*Morse*) 78
67, 68. TERTIARY LOOSE ,, ... 78

FIG. PAGE
69, 70. Mongolian Loose (*Morse*) 80
71. Chinese Drawing Ring (*Morse*) 81
72. Drawing Ring from Asia Minor (*from Berlin Museum*) 81
73. Drawing Ring from a Nilotic Tribe ,, ,, . 81
74. Japanese Shooting Glove 81
75, 76. Wutah Drawing Rings (*from Berlin Museum*) . . 83
77. Drawing Ring and Dagger, West Africa (*from Berlin Museum*) 83
78–81. Andaman Looses (*from photographs by Mr. Portman*) . 84
82. Indians shooting Buffalo on Horseback (*Catlin*) . 90
83. Buffalo-shooting in Snow (*Catlin*) 91
84. Indians creeping up to Buffaloes (*Catlin*) . . . 92
85. Indian shooting Buffalo (*Catlin*) 93
88. Ainu Poisoned Arrow (*Batchelor*). 97
89. Top of a Casket in Whalebone in the British Museum (Eighth Century) (*from Litchfield's 'Illus. Hist. of Furniture'*) 106
90. Martyrdom of St. Edmund (Thirteenth Century) (*from Royal MS.*) 107
91. Martyrdom of St. Sebastian (*about* 1450) (*from Brit. Mus. Add. MS.*) 111
92. Battle of Shrewsbury (*from Cotton MS.*) . . . 113
93. Capture of two Great Carracks (*from Cotton MS.*) . 117
94. Mounted Archers, 1544 (*from 'Monumenta Vetusta.' Pictures at Cowdray*) 118
96. Archer shooting at a Sphere (middle of Fifteenth Century) (*from Cotton MS.*) 123
97. From the 'Roman de la Rose' (*about* 1500) (*from Brit. Mus. Add. MS.*) 125
98. Arrow-heads (*from 'Histoire de la Milice Française'*) . . 129
99. Battle of Tewksbury (*from a contemporary MS.*) . . 131
100. Arrow-heads (*from 'Histoire de la Milice Française'*) . . 133
101. English Archer, 1544 (*from 'Monumenta Vetusta.' Pictures at Cowdray*) 135
102. War Chariot, with Archer, Crossbowman, and Hand-gun, 1483 (*from 'Vaturius de Re Militari'*) . . . 137
103. Death of S. Sieur de Roussilon in the Forest of Buch (Fifteenth Century) (*from Royal MS.*) . . . 139
105. Group of Archers, 1545 (*from 'Monumenta Vetusta'*) . 143
106. Group of Archers, 1544 ,, ,, . 146
107. 'The Pikeman stands coucht and charged for the horse, with his sword drawne' (1625) (*from Neade's 'Double-armed Man'*) 155

FIG.		PAGE
108.	'THE PIKEMAN STANDS SLOAPT AND SHOOTING' (1625) (*from Neade's 'Double-armed Man'*)	157
109.	THE ARCHER COVERED (*from Mason's 'Considerations'*)	159
110.	BRACER OF HENRY VI.	161
111.	HARROW SHOOTING PAPER	165
112.	ARCHER'S MARK	167
113.	FINSBURY ARCHER'S TICKET	170
114.	SIR W. WOOD, WITH THE CATHERINE OF BRAGANZA SHIELD (*from R.T.S. picture*)	171
115.	FRONTISPIECE TO G. MARKHAM'S 'ART OF ARCHERIE'	173
116.	TOXOPHILITE UNIFORM, 1792 (*Print by Rowlandson*)	177
117.	'THE STRENGTH OF ULYSES' (*sic*) (*from the 'Graces of Archery'*)	179
118.	'DOES THAT THERE FELLOW WANT TO BE SHOT?' (*from the 'Graces of Archery'*)	181
122.	IVORY BRACER	202
124.	THE HERTFORDSHIRE ARCHERY SOCIETY	211
125.	THE FLODDEN BOW (*from a photograph*)	224
126.	MONTROSE ARCHERY MEDAL	225
127.	SIR ASHTON LEVER (*from the 'European Magazine'*)	226
128.	MRS. CRESPIGNY ,, ,,	231
130.	ROYAL TOXOPHILITE SOCIETY'S GROUND IN 1836 (*from the 'Sporting Magazine'*)	234
133.	THE FOREST HALL	242
134.	'12 SCORE'	249
135.	MR. INGE SHOOTING AT THE CLOUT	253
136.	THE MARKERS AT THE TARGETS	257
138, 139.	SILVER STATERS OF SOLI IN CILICIA	286
140.	STAGES IN THE MANUFACTURE OF THE BOW	287
141.	DOUBLE AND SINGLE FISH-JOINTS	290
142.	FRAME FOR MAKING BACKED BOWS	291
143.	GOOD GRAIN	293
144.	BAD GRAIN	293
145.	CURL	295
146.	ORDINARY FEATHER (*from 'Ford's Archery'*)	307
147.	PARABOLIC OR BALLOON FEATHER (*from 'Ford's Archery'*)	307
148.	ARROW-WEIGHER	308
149.	BOBTAIL ARROW (*from 'Ford's Archery'*)	309
150.	CHESTED ARROW ,, ,,	309
151.	BARRELLED ARROW ,, ,,	309
152.	PARALLEL ARROW ,, ,,	309
153–155.	SECTIONS OF BOW, SHOWING FORCES ACTING ON ARROW	312
156.	LOOP UNDONE (*from 'Ford's Archery'*)	317

FIG. PAGE
157. LOOP (*from 'Ford's Archery'*) 317
158–162. STAGES OF THE SPLICE (*from 'Seamanship'*) 319
163. LAPPING (*from 'Ford's Archery'*) 320
164. LEWIN BRACER 322
165. GLOVE TIP (*from 'Ford's Archery'*) 324
166. KNUCKLE TIP 324
167. SCREW TIP 324
168. TAB (*from 'Ford's Archery'*) 325
169. ARROW RACK 328
170. ANCIENT FRENCH IVORY BRACER 330
171. POSITION OF THE FEET (*from 'Ford's Archery'*) . . . 338
172, 173. ,, ,, ,, ,, . . . 339
174. RIGHT METHOD OF HOLDING THE BOW (*from 'Ford's Archery'*) 340
175. WRONG METHOD OF HOLDING THE BOW (*from 'Ford's Archery'*) 341
176, 177. POSITION OF THE BOW IN THE HAND 342
178. AXIS OF VISION (*from 'Ford's Archery'*) 349
179. TIPPING OVER, WITH ELBOW DOWN 351
180. JASHER 353
181. AIMING (*from 'Ford's Archery'*) 354
182. TRUE LINE 355
183. DIRECT AND INDIRECT AIM (*from 'Ford's Archery'*) . . 361
184. A BAD LOOSE 365
187. A PRESENTATION COPY 373
189. THE GROUND SQUARED 404
191. FLIGHT ARROW 429
192. SOLID CYLINDRICAL PILE 433
193. SPEAR-SHAPED PILE 433

MAP OF DISTRIBUTION OF BOW (*Balfour*) . . . . } *at end*
,, ,, ,, CROSSBOW (*Balfour*) . . . }

ARCHERY

CHAPTER I

INTRODUCTORY

BY C. J. LONGMAN

OF all the sports and pastimes hitherto treated in this Library, hunting alone can lay claim to a greater antiquity than archery, while the devotees of one other, which has not yet been dealt with, can perhaps boast that it is still more widely practised —the pastime of dancing. For the love of dancing seems planted universally in the human breast, and the observations of naturalists have proved that even birds occasionally indulge in rhythmic steps and evolutions which can hardly be called by any other name. But neither dancing, nor hunting, nor any other sport has played a part in the history of the world which can compare with that of archery. For ages the bow was man's most efficient instrument in the chase, and for ages it was his most deadly weapon in war. Thousands of years ago the Hindu poets of the 'Rig Veda' (vi. 65) wrote this invocation to the bow:—

'May the bow bring us spoils and oxen, may the bow be victorious in the heat of the fight; the bow fills the foe with terrible fear, may the bow give us victory over the world.'[1]

[1] Quoted from Schrader's *Prehistoric Antiquities of the Aryan Peoples*.

What the bow then was to the Hindu race, it still remains to many tribes in remote parts of the earth where the blessings of civilisation have not yet fully penetrated. The bow dies hard, but its use as a military weapon is nearly ended. A few more years will see the out-of-the-way corners of the globe where it still flourishes furnished with cheap guns from Birmingham, and archery will then rank as a pastime only. But it is not possible to conceive a time when bows will no longer be made or arrows shot. Cricket bats, tennis rackets, and golf clubs will surely have become antiquarian lumber, stored in the museums of a remote future, before the swift flight of an arrow ceases to delight the human race.

In one considerable region of the earth only archery has never taken root, viz. the continent of Australia and its adjacent islands. With this exception, the history of archery is intertwined with the life of every great division of mankind. What forms of bows were used in bygone ages, and are still found in remote countries; what are the methods by which they were used, and what the skill and power of the archers—these are questions to which a large part of this book is devoted. In dealing with some sports it was possible to allot nearly all the available space to the practical side of the subject. In the case of cricket, for example, little can be found of interest before the beginning of the eighteenth century, and it has but few followers save those of the English-speaking race. Cycling, again, or lawn-tennis is still more recent. In describing such pastimes as these, nearly all that is necessary is to give an account of the methods by which they are now followed, while to treat archery on that plan would involve the omission of matter which possesses an interest for everyone, and most of all for the English archer. For it is largely to the skill of our forefathers in the use of the bow that we owe our national existence.

The Bibliography by Colonel Walrond, at the end of this work, will show how plentiful are the materials which are at the disposal of the historian of archery. But, long as is this

list of printed books and MSS. which deal more or less directly with the subject, it is necessarily incomplete. A bibliography of all the works which contain matter of interest to the archer would almost fill a volume. Archery entered so closely into the life of the ancients that references to it are common throughout classical literature. Again, the records of travellers constantly refer to the bows and arrows of the natives, and sometimes to their practice. These occasional references are of high value; but it would obviously be impossible to include in a bibliography of works professedly dealing with archery all the numerous books which merely contain incidental allusions to it. The written records, however, by no means constitute the entire sources from which we can gather information as to the shooting of other races than our own. Numerous representations of archers have come down to us from ancient times, of which examples may be found in the Assyrian and Persian sculptures, in the mural decorations of Egypt, and in the vases and coins of Greece. Moreover, archæology has called our attention to numberless arrow-heads of stone, of bronze, and of iron, the manufacture of which was originated by races of which we have scarcely any other knowledge, and has continued uninterruptedly to the present day. In a few cases the actual bows and arrows of ancient peoples have come down to us. Even this list by no means exhausts the list of objects bearing closely on the subject. The study of anthropology has caused its devotees to gather together all objects which throw any light on the life of man. There are collections of such objects in the public museums of almost every large town, and also in many private houses collections now exist. Specimens of bows and arrows, quivers and arm-guards, from all parts of the world, are thus easily accessible to the student. A careful examination of all these sources of information would supply materials for a far more exhaustive treatise than the present. Indeed, the archer's craft has been practised for so long a period, and over so large a portion of the earth's surface, that it is impossible within the

limits of a single volume to do more than glance at many subjects of high interest, while others are necessarily omitted altogether.

Numerous as are the references to archery in ancient literature, and great as is the assistance afforded by archæology, there are yet many points on which we are but poorly supplied with the means of reconstructing the archery of the past. It is greatly to be regretted that the discovery of gunpowder so nearly coincided in point of time with the invention of printing. The gun and the printing press consequently grew up together, and the outburst of literature, called forth by the increased opportunities for its dissemination, came at a time when the supremacy of the bow as a weapon of war was already gone. Still we owe to the sixteenth century Ascham's immortal 'Toxophilus or the Schole of Shootinge,' which was first published in 1545, and has been constantly reprinted, the latest edition having been issued by Mr. Arber in 1868. This is, on the whole, the most valuable work ever published on the subject, and that as much for the practical instructions contained in it, many of which hold good to this day, as for the picture it gives of archery in the days of the Tudors. The 'Livre du Roy Modus' was printed in 1486, and various other treatises on the subject were printed in the sixteenth century which are justly valued—notably, 'Certain Discourses' and 'Certain Instructions,' by Sir John Smythe, Knight; Matthew Sutcliffe's 'The practice proceedings and lawes of armes described,' and Humfrey Barwick's 'A breefe discourse concerning the force and effect of all manuall weapons of fire and the disability of the long bowe or archery, in respect of others of greater force now in use.' These four works discussed the relative value of the bow and firearms in war, Sir John Smythe stubbornly upholding the bow against 'the Mosquet, the Caliver,' and all other weapons which depended on the use of villanous saltpetre. He fought stoutly for a losing cause.

Valuable as these works are, it is matter for regret that none

such exist, dating from the period when the archers of England were the terror of the Continent. What would we not give for a monograph on archery by the Black Prince, or one of his famous bowmen, or by one of the gallant band who routed the chivalry of France at Agincourt? Then we should have had actual knowledge of the distances to which these stalwart archers could shoot, of the penetration of their arrows, and the accuracy of their aim. Possibly we might even have received authentic first-hand information as to the doings of Robin Hood and his band of outlaws, whose feats are chronicled in that delightful cycle of ballads which nowadays are perhaps less read than they deserve. Whether or no Robin ever lived and hunted and robbed the rich and proud, and gave alms to the weak and the poor, beneath the oaks of Barnsdale and Sherwood Forest, will perhaps never be known. This much is certain, that the ballads which tell his story are uncommonly good reading. What more delightful glimpse of forest life can be found in English literature than the opening verses of 'Robin Hood and the Monk,' which is one of the oldest of the series:—

> In somer when the shawes be sheyne
>   And leves be large and longe
> Hit is full merry in fair foreste
>   To here the foulys song.
> To see the dere draw to the dale
>   And leve the hilles hee,
> And shadow hem in the leves grene
>   Under the grene wode tre.

Robin Hood is the subject of a large amount of literature, and this work is not the place to examine in detail the evidence as to his corporeal existence. He has been said by some to be merely an impersonation of the forces of nature—to be, in fact, a degraded form of the god of the wind, Hermes—Woden. Maid Marian is Morgen the Dawn Maiden. Friar Tuck, good cheery soul, is Frer-Toki, the spirit of frost and snow. How strangely his character was misunderstood by the makers of the

ballads! Those who wish to study this question may be referred to Mr. Hunter's tract on the subject.[1]

Mr. Hunter says that the lines in Langland's 'Vision of Piers Plowman,' written between 1355 and 1365, contain by far the earliest mention of Robin Hood's name :—

> I can not perfitly my paternoster as the prest it sayeth,
> But I can rymes of Robin Hode and Randolph Earl of Chester.

From this he infers that ballads of Robin Hood were well known in the reign of Edward III. He tells the story from the ballads of how the king in disguise seeks out Robin Hood in the forest; how there is a shooting contest, and how the king wins Robin's respect by the force of the buffet he gives him. The king then discloses himself and grants Robin his pardon on condition of leaving the greenwood and coming to Court in his service. Mr. Hunter identifies 'Edward our comely king' with Edward II. Many circumstances point to this conclusion, but strong evidence is afforded by the fact that Edward II. did make a progress through Lancashire and Nottinghamshire in 1323. Further, strangely enough, in the king's accounts for the year 1324 appears for the first time the payment of wages amongst the porters of the chamber to Robyn Hod and to Simon Hod. It seems, therefore, that there is no necessity for giving up belief in the existence of the famous outlaw.

Truly an archer who pursues his craft in the right spirit need be envious of no man. He has a hobby which will provide him with recreation and enjoyment the whole year through. In the dark and stormy days of winter, when the cricket bat is laid by, and the angler is longing for the balmy breezes of spring, when the trout will again rise, the archer will betake himself to his library, and the volumes of an archer's library are the doors to the most varied scenes and the most engaging company. If he is inclined for speculation, in a moment he is

[1] *Critical and Historical Tracts*, No. IV. 'The Ballad Hero, Robin Hood.'

carried across the ages back to the days when the world was young, and finds himself engaged in stalking and shooting gigantic animals, long since extinct, in the company of Prehistoric Man. His mood changes, and in a moment he is sailing over the dark Mediterranean wave with Odysseus, and listening to the magic song of the great bow of Eurytus, which has been sung for us by a modern poet.

> Keen and low
>   Doth the arrow sing
> The Song of the Bow,
>   The sound of the string,
> The shafts cry shrill;
>   Let us forth again,
> Let us feed our fill
>   On the flesh of men.[1]

The bow sang only when a fight was near, and soon he will see how Antinous fell with an arrow in his throat as he lifted the wine-cup to his lips, and Eurymachus and Amphinomus and the other suitors quickly met their fate. Or he can take his stand at Thermopylæ and fight once again the immortal battle which Leonidas fought against the myriad archers of Xerxes, or in the pages of Lepsius and of Layard he can be an eye-witness of the battles of the Pharaohs of Egypt or of the Assyrian kings. If he grows for a moment tired of the din of arms, he can swiftly annihilate time and space and watch the Andamanese peacefully shooting fish on the shores of their islands in the Indian Ocean, or enjoy a deer hunt with the Ainus of Sakhalin. Whatever scenes in the wide world he may wish to hear of, few indeed are there which he cannot visit in pursuit of further knowledge of his craft.

Some archers there are who have sufficient mechanical skill to employ the winter days in fashioning weapons for the coming season. These, indeed, are much to be envied, though the gift is rare. Still, an archer who prefers to trust to a self-yew by Aldred

[1] From the 'Song of the Bow,' by Andrew Lang, in *The World's Desire*, by Andrew Lang and H. Rider Haggard.

to one of home manufacture, may find plenty of occupation in executing many little repairs which are needed to keep his tackle in working order. Few of us have that confidence in our mastery of the bowyer's craft which was shown not long ago by a well-known archer at a meeting of the Grand National Archery Society. Finding, during the progress of the match, that his bow was too strong for him, he proceeded to pull out his knife, and then and there reduce it to a more manageable strength.

Of the delights of the quiet practice at the targets, when at last the winter is over, or of the keener joy of a well-contested public match, it is unnecessary to speak to archers, and it is hoped that some who are not yet archers may be led into the fold by reading the pages of this book. Certain it is that few of those who have shot the York Round in the peaceful grounds of the Royal Toxophilite Society, or on one of the many beautiful ranges to be found attached to stately halls and quiet country parsonages throughout the length and breadth of England, regret the day when first they became slaves of the bow.

CHAPTER II

PREHISTORIC ARCHERY

By C. J. Longman

The question of how, when, and where the practice of archery first arose has been much debated, but has never been decided; nor is it probable that any of these three interesting points will ever be settled beyond doubt, though the researches of archæologists have thrown much light on the subject, and may throw more in the future. That the bow was used at a very remote period is certain, and also that its use was spread over a great portion of the globe; though there are some regions where no trace of it has yet been found. No doubt one of the first needs of primitive man was a weapon wherewith to kill the wild animals which formed his food. His first idea would probably be to break off a bough of a tree, with which to knock them on the head, and he would soon find out that a more satisfactory way of dealing with the larger animals would be to use his stick as the umbrella is said to be used by experts in a street row—namely, for poking rather than striking. When he had further arrived at the fact that if he contrived to sharpen one end of his stick a little it would penetrate further, he may be said to have already discovered two weapons which have played a considerable part in the world's history—viz. the club and the spear. No doubt with these weapons he was able to supply his wants for a considerable time; but he would by degrees discover that the smaller beasts became more wary, and refused to allow him to come too near them; and experience would soon teach him that it was

not desirable in his own interests to approach the larger and more savage animals too closely. Naturally he took to throwing his spears from a distance, and he was then as well supplied with weapons of offence as many savage tribes are at this day. His heavy stick for striking, his light spear for throwing, and his heavier spear for thrusting, are, in fact, the knobkerry, the throwing assegai, and the stabbing assegai with which Chaka and his Zulus overran South Africa.

The next step was a long one, and, as we have seen, some tribes have not yet taken it. Primitive man became dissatisfied with the short distance to which he could throw his spears, and also at their failure to penetrate the thick hides of the larger animals, even when he had learnt to sharpen the points and harden them in the fire, and to improve them further by adding tips of bone or of stone. He was fully conscious of the advantage he would gain if he could send a spear twice the distance to which he could throw it, but the problem seemed to him insoluble. In due time, however, the solution came, and in three totally distinct forms—viz. the throwing-stick, with its relatives the amentum and the sling, the blow-pipe or sumpitan, and, greatest of all, the bow. Whose was the inventive brain to which in some primeval forest the idea first occurred of utilising the elasticity of wood by attaching a cord to a stave we know not. Some inquirers believe that, like the planet Neptune, the bow had more than one discoverer, and even that it was invented independently in three or four different localities. Of this, however, there is no evidence; and just as we are ignorant of the very names of the brave men who lived before Agamemnon, or the archers who used the Cydonian bow before Teucer, so we shall never know anything of the men to whom is due one of the most momentous steps in the history of human progress—*carent quia vate sacro.*

General Pitt Rivers[1] thinks that, in pushing his way through the forests, primeval man would soon perceive the elastic pro-

[1] *Catalogue of Anthropological Collection*, p. 41.

perties of the underwood, and that the first step would be to tie his lance to a stem, fixing it in such a way that it commanded the path of some animal; at the proper moment he would release the spring, and the animal would be pierced. He continues:—

The spring-trap of the Malay peninsula described by Père Bourienne is a contrivance that might readily have suggested itself from the use of an elastic throwing-stick. When the spring is fastened down by a string or cord, it would soon be perceived that by attaching the end of the lance to the string instead of the stick it could be made to project the lance with great force and accuracy. The bow would thus be introduced.

There is no higher authority on primitive weapons than General Pitt Rivers, and we may accept this pedigree of the bow as being at any rate possible.

It is impossible even to conjecture at what date this development took place. The oldest writings contain references to archery, and the oldest languages contain the names of the bow and the arrow. The use of the weapon is, therefore, prehistoric beyond all doubt. For the earliest evidence of its use we must turn to archæology, and the best archæologists are careful to assign no exact dates to prehistoric remains. Few examples remain of the bow of prehistoric times, and none have been found dating from the palæolithic age. Nevertheless, in the numerous arrow-heads which are constantly being found we have evidence that the practice of archery was widely spread at a very early period.

Arrow-heads have been manufactured from various substances. It is a common practice among savage tribes to-day to insert a sharpened foreshaft of hard wood into a light reed, and no doubt this form of arrow is very ancient. Actual arrow-heads have been manufactured from many substances, notably bone, horn, stone, and, after the use of metals was discovered, of bronze, iron, and finally steel. Owing to the perishable nature of wood, few bows and arrows of this material have survived from prehistoric times. A certain number of

bone and of bronze arrow-heads have come down to us, especially from the Lake Dwellings of Switzerland,[1] where also a few have been found made of stag's horn. It is, however, to the arrow-heads of stone that we must mainly look for information about prehistoric archery.

Stones which have been obviously worked by man into more or less serviceable tools exist in great numbers over a large part of the globe. Many have been found embedded in strata which must have been deposited long ago, the oldest-known instruments of human manufacture being those which are now generally termed Palæolithic.[2] Palæolithic implements are obtained from the gravels and other alluvial beds deposited by rivers, and also in caves which were inhabited by man at a remote age. They are closely associated with the remains of many animals which have been long extinct, and of others which belong to a climate totally different from that which now prevails in the district in which these relics are found. Among those animals which are now extinct may be named the woolly-haired rhinoceros and the mammoth, bones of which are frequently discovered in Great Britain and throughout France in close connection with flints worked by man, as also are bones of the reindeer, an animal which is now confined to Arctic or sub-Arctic regions. The character of the implements from the gravels or river-drift is very similar to that of the implements found in the caves, and they lie side by side with the bones of the same species of animals. For these and other reasons it is believed by geologists that the period during which the men were living whose traces are found in the river-drift at any rate partly coincided with the period of the cavemen. Some of the implements from the caves are, however, more skilfully fashioned than those from the drift,

[1] See the *Lake Dwellings of Switzerland*, by Dr. F. Keller, translated by J. E. Lee.

[2] Those who wish to study this subject in detail must be referred to Sir John Evans' book on the *Ancient Stone Implements of Great Britain*, and to the works of Sir J. Lubbock, Mr. Tylor, M. Gabriel de Mortillet, to all of which, and others, I am indebted, but especially to the work first quoted.

and it is therefore probable that in some cases the cave deposits may be rather later. Experts have made various calculations as to the date at which the river-drift was deposited. Few, however, consider that it can have been much less than one hundred thousand years ago, and some believe that it must have been much more.

Although many of the implements from the river-drift in shape resemble arrow-heads, yet their size and weight preclude the likelihood of their having been used as such. So far there is no evidence that the use of the bow was known to the river-drift men, but implements have been found in the caves which can hardly have been used for any other purpose than for the piles of arrows. Specimens (fig. 1) of this character have

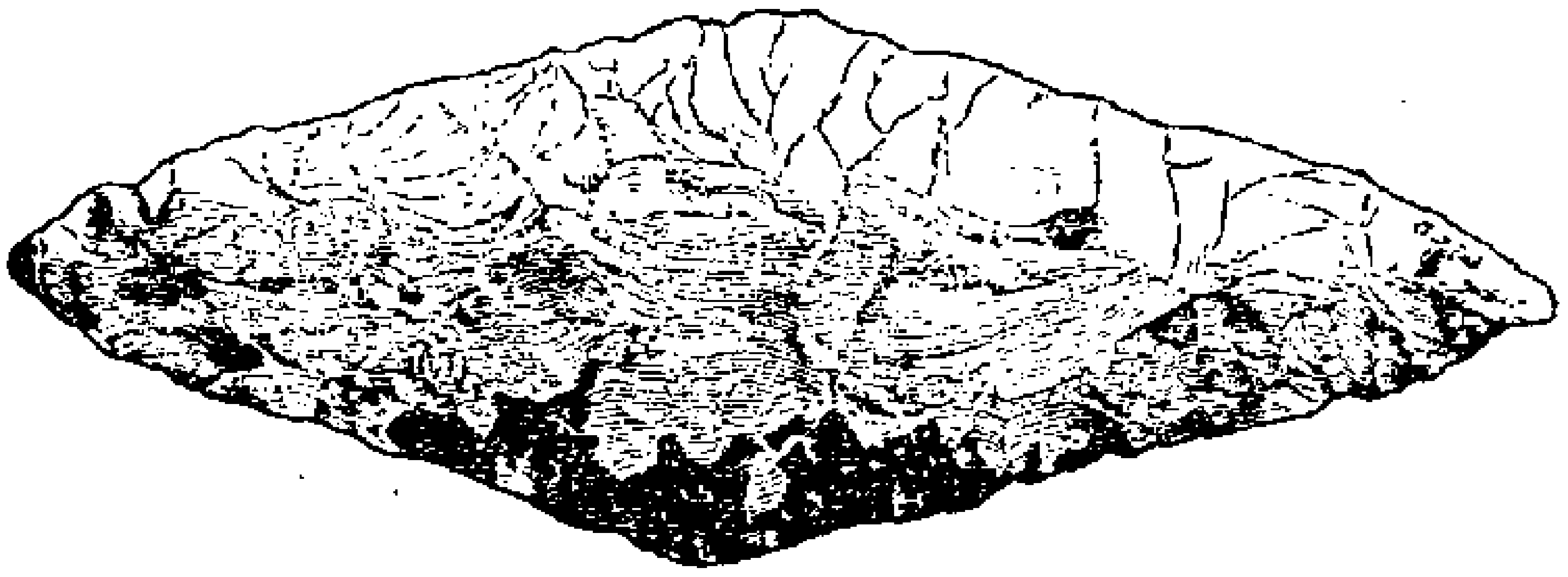


FIG. 1.—Arrow-head
(From a palæolithic deposit at Solutré. ½)

been obtained in various places ; amongst others from a cavern at Laugerie Haute, in Dordogne, in Central France, and also at Solutré, in the department of Saône et Loire, in company with remains of the reindeer and the mammoth. The engraving of an arrow-head from Solutré is from a specimen lent to me by Sir John Evans. If these instruments are rightly assumed to be arrow-heads—and it seems hardly possible to doubt it—they must be reckoned as the earliest known pieces of archery tackle, and the origin of the bow must be referred to a period incalculably remote. But though these arrow-heads—which were chipped from flint by the unknown savages who inhabited France at that distant period, when the mammoth and the reindeer were to be found there in countless thousands—form our earliest direct evidence of the use of the bow, yet it is

impossible to say that it was to this race that the invention of archery is due. It is exceedingly probable that bows and arrows were used ages before the practice of making flint heads to the arrows arose, and it is even possible that the cave-dwellers of the reindeer period are nearer to us in point of time than they were to the first archers.

In passing from the age of palæolithic man to what is known as the neolithic age we at once tread on surer ground. The neolithic age is also called by some archæologists the age of polished stone. Whereas the stone implements of the palæolithic age were formed by chipping, and were seldom, if ever, ground or polished, many of the neolithic weapons are carefully polished. Chipped and unground implements are, of course, frequently found near the surface, and, indeed, are manufactured at the present time; but Tylor says that 'we have no historical knowledge of any tribe who have used stone instruments, and have not been in the habit of grinding or polishing some of them.'[1] The neolithic age, then, cannot be said to be yet concluded in some parts of the world, and its commencement must be put far beyond the dawn of history. Yet even the earliest of the neolithic men, amongst whom were the inhabitants of the Lake Dwellings of Switzerland, seem modern in comparison with the latest of the cave-dwellers. Between the two is a vast hiatus.[2] The mammoth, the reindeer, the cave lion, even man himself, disappeared from Central Europe, and a period intervened when animal life seems to have been extinguished in this portion of the globe. Then came neolithic man, with his bows and arrows, with domestic animals, with a knowledge of agriculture and of pottery, to inhabit what had become the temperate regions of Western Europe. Abundant evidence exists that this race of men were archers. Few bows, indeed, have survived, but incalculable numbers of stone arrow-heads have been found,

[1] *Researches into the Early History of Mankind*, by E. B. Tylor.

[2] See *Le Préhistorique, Antiquité de l'Homme*, by Gabriel de Mortillet, pp. 479 *et seq.*

FIG. 2

FIG. 3

FIG. 4

Bows from Robenhausen

some few still inserted in the shaft. Some bows even have come down to us. M. de Mortillet mentions one which was found in a turf palafitte near Robenhausen, in Switzerland, which he dates from the age of polished stone; and the Marquis de Nadaillac[1] says that another is known coming from Lutz, also in Switzerland. I have in my own possession a bow which was found deep down in the peat near Cambridge in 1885. It is impossible to fix a date to this bow, but it may be regarded as probably prehistoric. It is made of yew, and is a single stave 4 ft. $11\frac{1}{2}$ in. long. A very small portion, probably an inch or less, is broken off at the upper end. At the lower end it is complete, the shoulders where the string was fixed being perfect. It is a weak weapon, which could only have been effective at short range, and is made from an indifferent piece of yew, full of pins, or places where lateral twigs had to be trimmed off. These pins are well-known sources of danger to the life of a bow, and a modern bowyer will choose a piece of wood, if he can get it, in which such blemishes do not occur. Wood that is perfectly clean in this respect is, however, difficult to obtain, especially in English yew, and for this reason, amongst others, staves for the better class of bow have been imported from the Continent from the Middle Ages to the present day. One often, however, has to put up with one or more pins in a bow, and the bowyer strengthens the places by what is called 'raising' the pins—that is to say, by leaving more wood round them than on the rest of the bow, and so raising bumps instead of cutting them off flush. A reference to fig. 7 will show that the man who made this bow was acquainted with this little piece of bowyer's craft.

The weapon consists of about two-thirds of a thin stem or branch of yew, and is not cut from a thick trunk, as is now the practice. The stem was split longitudinally into two unequal portions, and the larger portion was then shaped. No doubt the rounded side was the belly, or portion held towards the archer. It would follow that the 'sap,' or part of the wood

[1] *Mœurs et monuments des peuples préhistoriques.*

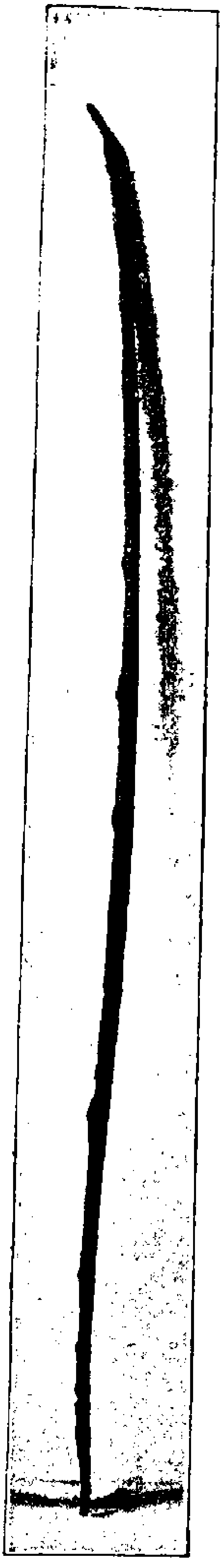


FIG. 5 ($\frac{1}{12}$)

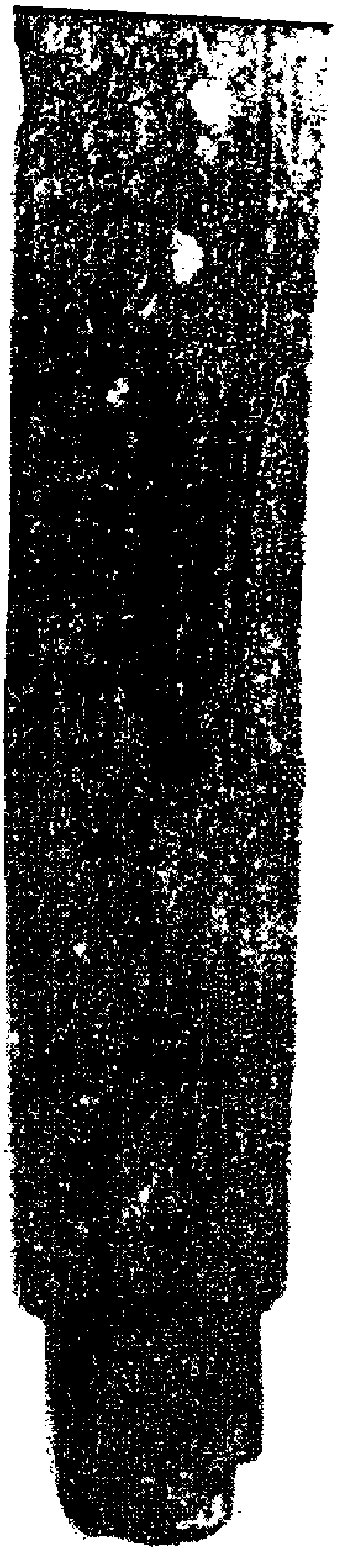


FIG. 6 ($\frac{1}{1}$)

FIG. 7 ($\frac{4}{5}$)

Neolithic bow (*Coll. C. J. Longman*)

next the bark, where the sap flows, formed the belly. This is contrary to the practice of modern bowyers, who always use the sap, which is the more elastic part of the wood, for the back.

Though few bows remain to us of the age of polished stone, the number of arrow-heads that survive affords incontestable evidence that they once existed. Specimens of stone arrow-heads have been found, in greater or less profusion, in almost every country in Europe.[1] From Africa they are scanty, but more may be discovered when archæologists have paid greater attention to that continent. Still, some have come from the dolmens of Algeria and the Egyptian tombs. In Asia comparatively few have yet been found, and no doubt the cause is the same to which the scarcity of specimens from Africa must be attributed. They have been obtained, however, in India and Arabia, and in Japan. In North America they exist in large numbers, and, indeed, are manufactured to this day by the Californian Indians and by the Eskimo of Greenland. They also occur in Mexico, and in South America, in Peru, and as far south as Patagonia and Tierra del Fuego, in which latter country they are still made by the natives. None have yet been obtained in Australia or New Zealand, in which countries the natives do not use bows.

The material of which stone arrow-heads are composed is generally silex in some form. In most cases they are chipped from flint, which is nearly pure silex. In Greenland the Eskimo make them of chert, and in Mexico, and some other localities, they are made from obsidian, or natural volcanic glass, and silex enters largely into the composition of both these minerals.

The forms of stone arrow-heads are very various, but they are all more or less cuneiform, or wedge-shaped, and they may be grouped into two classes; viz. (1) those in which the apex of the wedge is used for penetration, and (2) those in which the wedge is reversed and the base forms the cutting edge; the

1 *Ancient Stone Implements of Great Britain*, by Sir J. Evans, K.C.B., pp. 357 *et seq.*

latter group is called by archæologists 'chisel-edged.' The first class is by far the commonest, and is subdivided by Sir John Evans[1] into five main forms, which, however, run into each other, many intermediate forms being found. These five forms are the Leaf-shaped, the Lozenge-shaped, the Tanged—

FIG. 8. Leaf-shaped arrow-head

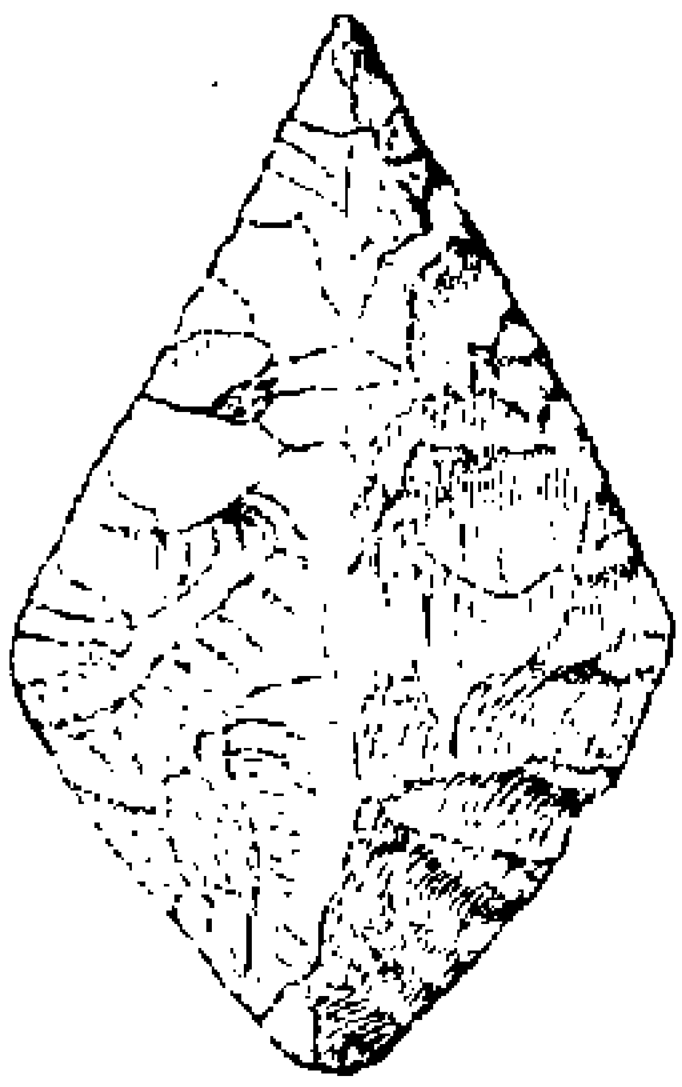


FIG. 9. Lozenge-shaped arrow-head

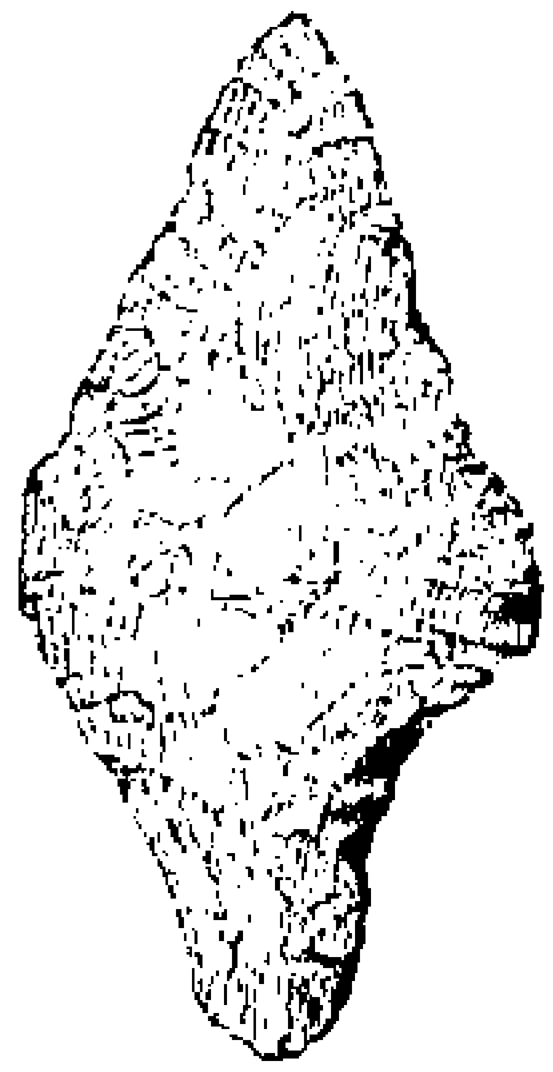


FIG. 10. Tanged arrow-head

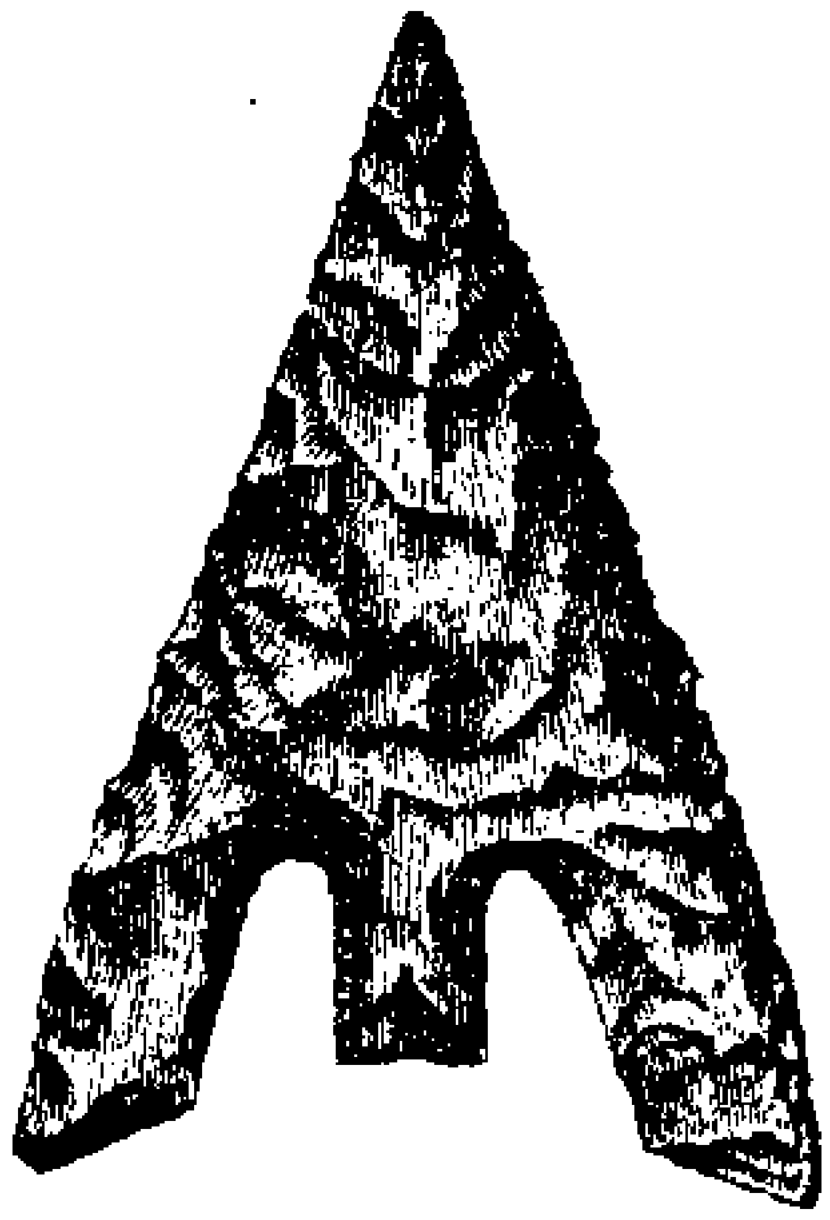


FIG. 11. Barbed and tanged arrow-head

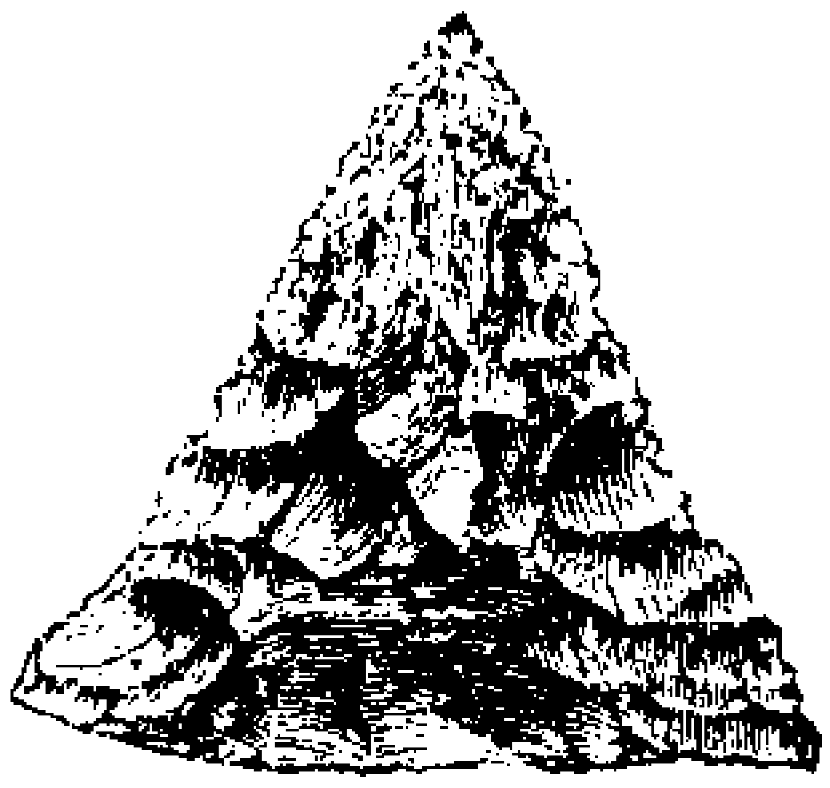


FIG. 12. Triangular arrow-head

Neolithic arrow-heads

(*From Sir J. Evans' 'Ancient Stone Implements of Great Britain'*)

in which a stem or tang is added for insertion into the shaft—the Barbed, and the Triangular. Perhaps the tanged should hardly be regarded as a separate class, as barbed, triangular, and perhaps lozenge-shaped, arrow-heads are all found with and without the tang.

[1] *Ancient Stone Implements of Great Britain*, pp. 333 *et seq.*

The Californian Indians manufacture barbed arrow-heads with a nick on each side, for convenience in attaching them to the shaft. An arrow-head of obsidian, precisely similar in form and method of attachment to the modern Californian

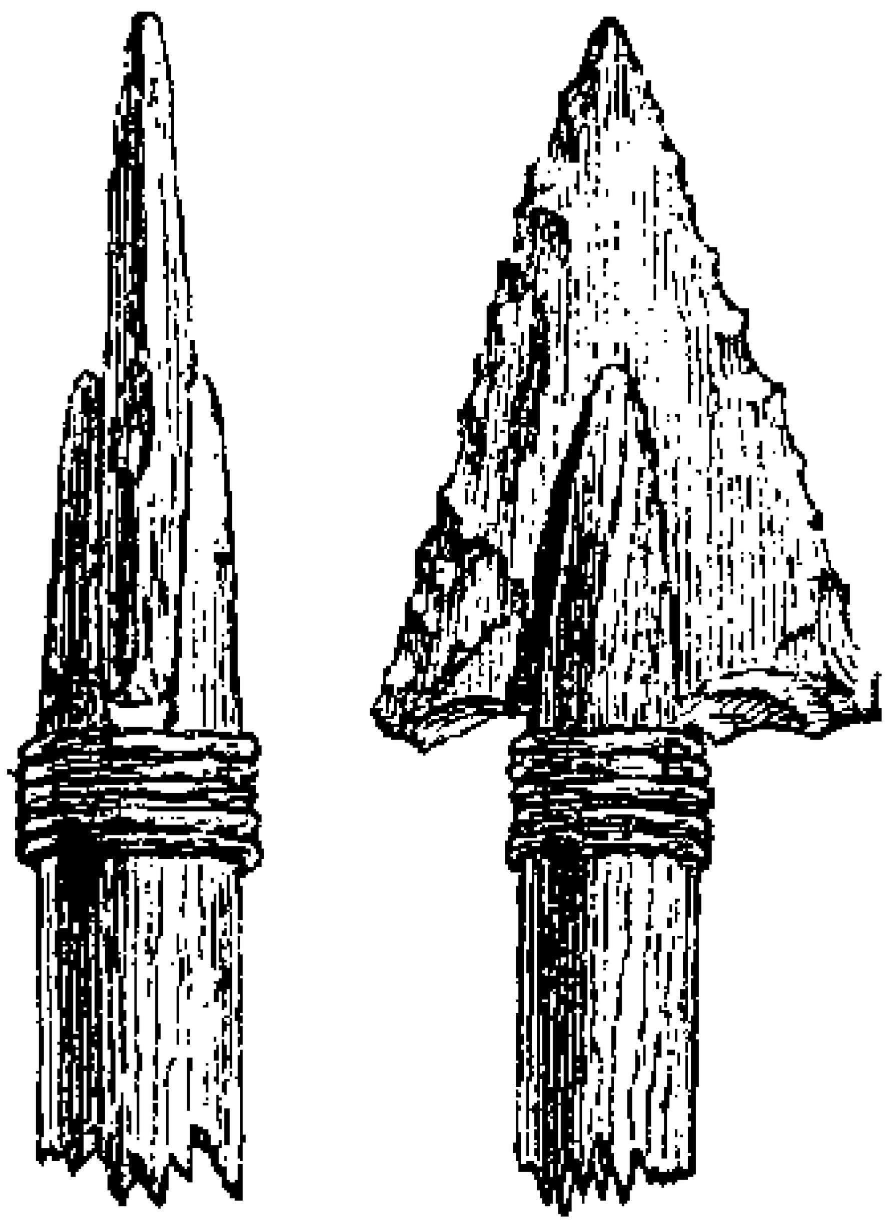


FIG. 13. Swiss Neolithic arrow-head, showing attachment

(*From Sir J. Evans' 'Anc. Stone Imp. of Gt. Britain.'* $\frac{1}{1}$)

FIG. 14. Modern Californian arrow-head, showing attachment

(*Coll. C. J. Longman.* $\frac{5}{7}$)

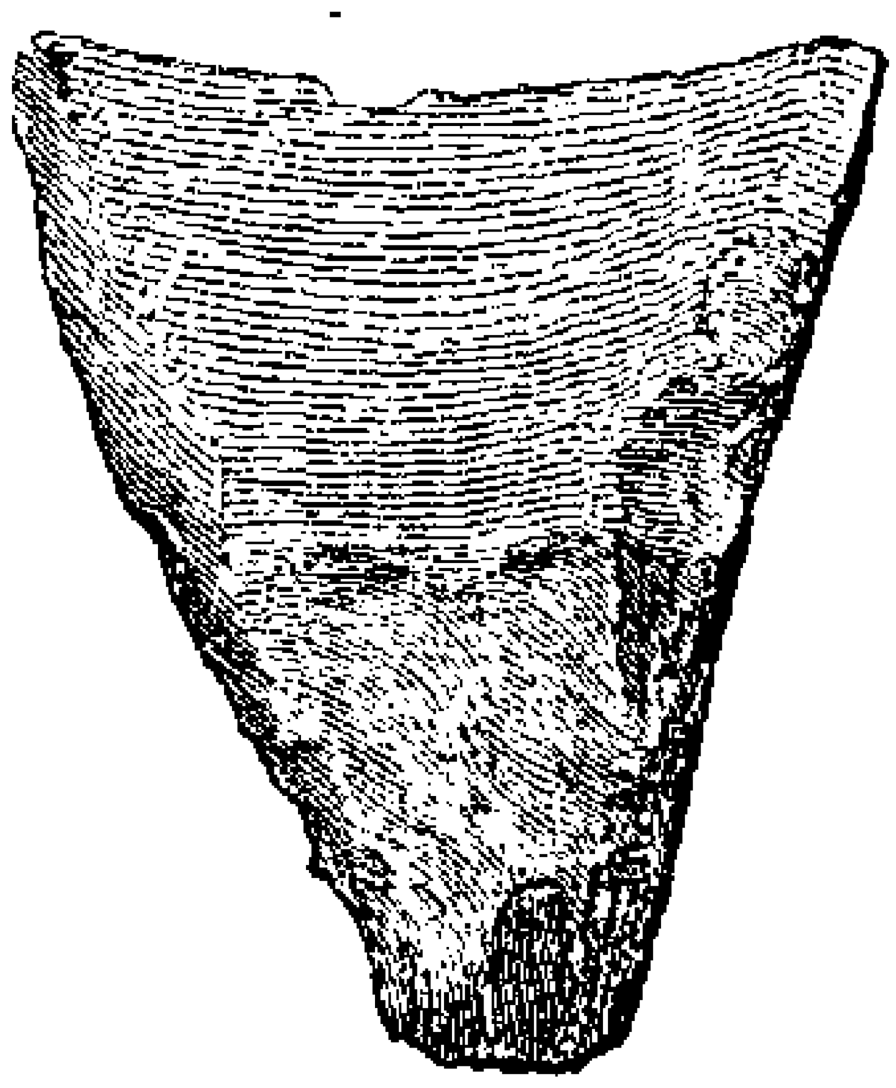


FIG. 15. Scotch chisel-edged arrow-head

(*From Sir J. Evans' 'Anc. Stone Imp. of Gt. Britain'*)

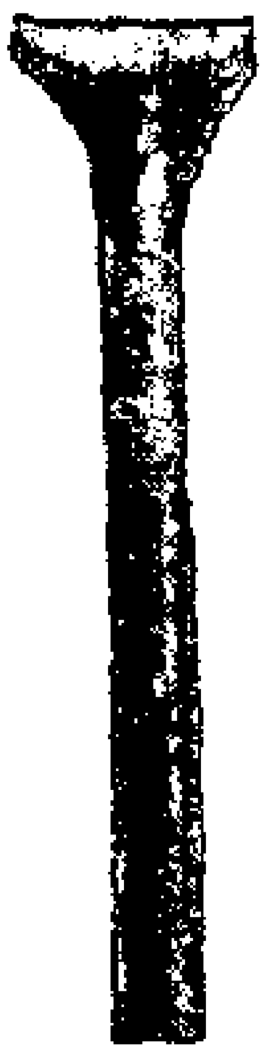


FIG. 16. Ancient Egyptian flint arrow-head

(*Coll. C. J. Longman*)

examples, was found in the ancient Swiss Lake Dwelling at Robenhausen.

The reversed wedge or chisel-edged form is much less common in Europe, though it is occasionally found. It appears to have been commonly used in ancient Egypt, and I have

seen a modern African arrow with an iron head of this form in the Berlin Ethnographical Museum.

It is difficult to see why the wedge should have been adopted so universally as the right form for arrow-heads; and, indeed,

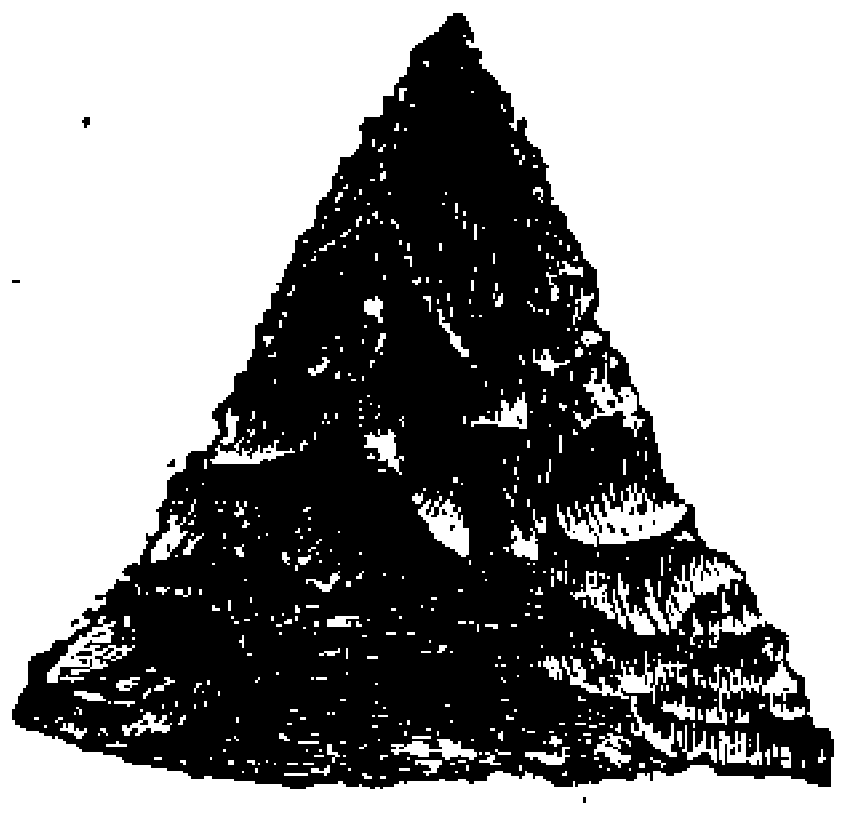


FIG. 17. Triangular arrow-head

(From Sir J. Evans' 'Anc. Stone Imp. of Gt. Britain')

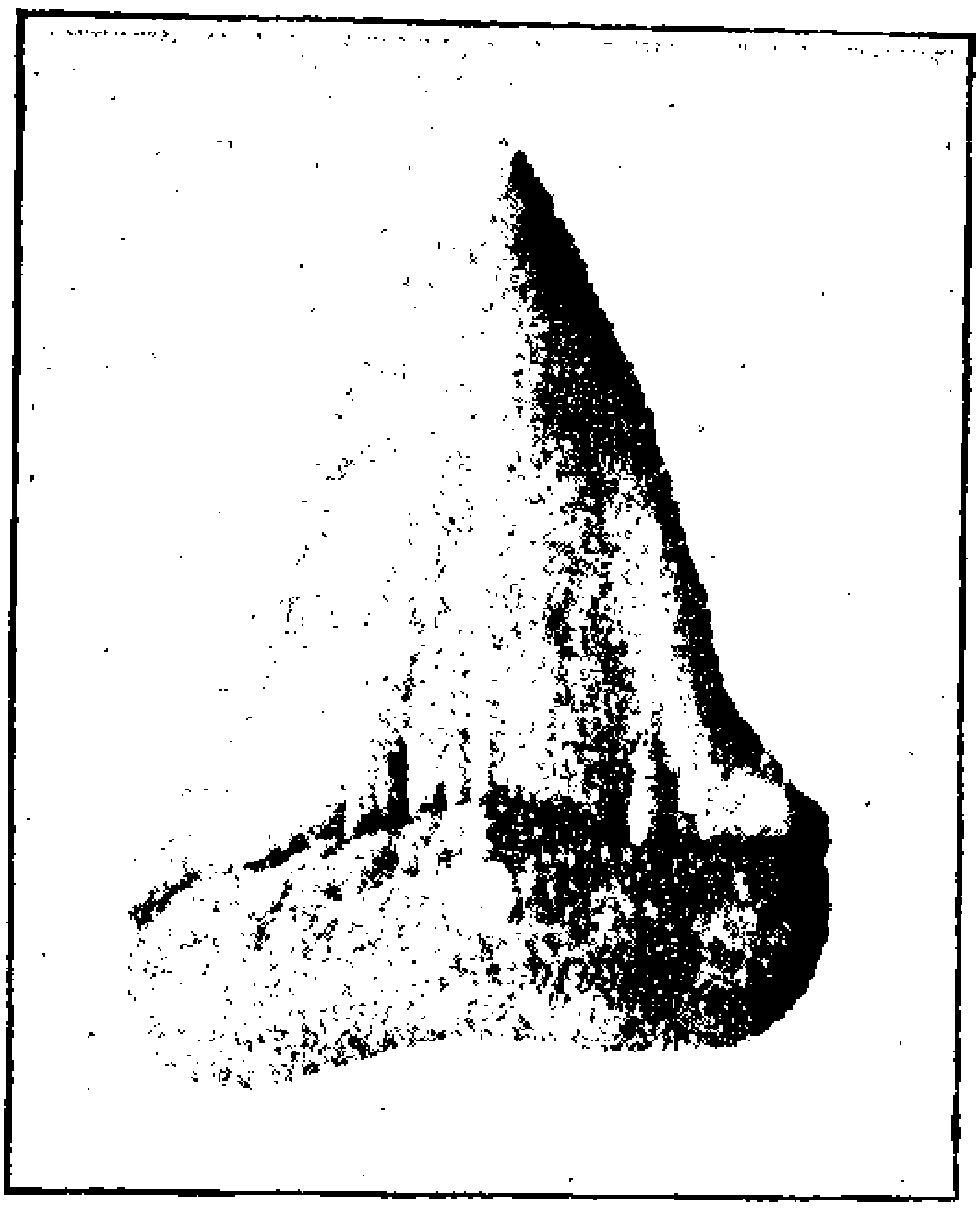


FIG. 18. Fossil shark's tooth

FIG. 19. Barbed flint arrow-head

(From Sir J. Evans' 'Anc. Stone Imp. of Gt. Britain')

FIG. 20. Fossil shark's tooth

it is remarkable that any single form should be so widely spread and so persistent. The matter is the more curious when we consider that the wedge is by no means the simplest and most natural form. The natural form would be merely a sharp and

hardened continuation of the shaft. The addition of a wedge-shaped excrescence would seem to impede penetration rather than to assist it. This has suggested to me the probability that the typical arrow-head form may have been copied from some convenient natural object which was used for the purpose before the art of manufacturing arrow-heads from stone was invented. One class of objects which would be found in great plenty at once suggests itself—viz. the teeth of land or sea animals. A comparison between the engravings of sharks' teeth and the triangular and barbed forms of arrow-head (p. 21) seems to suggest something more than a coincidence.

The similarity in form is most striking, and possibly we have here the origin of the barb, which has been applied to many implements since those early days. A further coincidence may be noted in the serrated edge which is a striking feature in the teeth of many sharks, and which is also found in many arrow-heads. This device, of doubtful utility in an arrow-head, is hardly likely to have occurred to the mind of primitive man, unless it was suggested by some existing natural object, from which he was copying.

In a Lake Dwelling at Moosseedorf, near Bern, in Switzerland, an arrow-head has been found, of bone, which has a very finely serrated edge,[1] and is also slightly barbed. I have not heard of any teeth being found actually bound into arrow-shafts, and, indeed, it is hardly likely that any such now exist, as very few stone arrows even have come down to us in this condition. At Ebersberg,[2] on the Ischl, in company with stone and bronze implements, a number of fossil sharks' teeth were discovered, the use of which seems to be unknown. Stone celts were found, but no stone arrow-heads; only one bronze arrow-head was discovered. It is at least possible that these teeth were used as arrow-heads.

[1] Keller's *Lake Dwellings of Switzerland*, ed. 1866, p. 35.

[2] *Ibid.* p. 373.

CHAPTER III

FORMS OF THE BOW, AND THEIR DISTRIBUTION

BY C. J. LONGMAN

WE have at present seen that prehistoric man was an archer; that some of his bows, at any rate, were of simple construction, and made of wood; and that he commonly tipped his arrows with heads of flint, bone, or horn, often of beautiful workmanship. Beyond the few bows of neolithic times which have come down to us, we have no ancient evidence from which we can trace the development of the bow till we come to the mural and rock sculptures of the Egyptians, the Hittites, the Assyrians, and the Persians; and, in the case of the Egyptians, the actual bows and arrows of very great antiquity which have been preserved in their tombs. All these nations, however, had arrived at a high state of civilisation by the time that they were capable of executing the remarkable monuments which tell us so much of their life and history, and it is not here that we must look for the most primitive form of bow. Many savage tribes exist to-day, in remote parts of the earth, in whose customs and weapons and art we can recognise a far earlier stage of development than would be reasonably sought for among the comparatively modern inhabitants of Nineveh, or Babylon, or Thebes.

Starting, then, at the time when the savage first evolved the idea of propelling an arrow from a string by means of the elasticity of a wooden bow, it is not difficult to imagine the form

which the earliest bow would take. In fact, bows of this elementary form are still being made in great numbers, even in our own islands. Most of us, in the days of our childhood, no doubt possessed a bow, and many have had a similar experience of how best to come by such a treasure. When first a boy has realised that life would no longer be worth living unless he owned a bow and arrows, he usually confides his aspirations to the gardener. He, being frequently a practical and kindly man, pulls out his clasp-knife, and from the nearest copse cuts down a growing stem of hazel, some seven feet in height. The upper three feet he cuts off, as being too slim and weak, and cutting notches near the top and the bottom of the remaining four feet, and pulling a piece of string from his pocket, which he cuts somewhat shorter than the stick, he ties it securely on to each notch, and the job is finished. Even the three upper feet are not wasted, as, when the weakest part of this remnant is again removed, and a notch cut in the butt, a serviceable arrow is made. It may here be mentioned that boys soon discover that the deal sticks used to tie up fuchsias, geraniums, &c., make much better arrows, though the fact that they are tempted to annex them when their benefactor's back is turned would be, perhaps, more in point in a treatise on original sin than in the present work.

The bow thus made will be found to have some features especially characteristic of the most rudimentary weapons. In the first place, the stave of which it is made is necessarily weaker at the thinner, or upper, end than at the lower. Consequently, the upper end curves more than the lower, and the centre of resistance, from which the two limbs bend, would be much lower down than the centre of the bow by measurement, the upper limb, as archers would say, being much longer than the lower limb. Now this shape would necessarily persist as long as bows were made from tapering sticks cut without shaping from the growing plant, and in point of fact it has been perpetuated to this day by various races who have advanced considerably beyond this stage of the bowyer's craft, but have

continued ignorantly to imitate this early form of bow. It is, of course, a radically bad form, as all bowyers who know their business aim at making the two limbs as equal as possible in length, power, and quickness of recoil. This bow would be technically described as a simple 'arcus' with uneven limbs.

A second characteristic point in our 'gardener's bow' would be the fact that the string is permanently fixed in the notches, and that the bow is, as archers say, always 'strung.' Now it is obvious that a bow which is kept always strung must in time degenerate, and, as it is termed, lose 'cast.' Yet it is curious that the simple process of making a loop, at any rate at the upper end of the string, which can be readily pushed forward at will into the notch, has not yet been discovered by the majority of tribes which use the bow. It has, of course, been adopted long since by European archers, and the Eastern 'composite' bow is strung and unstrung at will, though in a cumbrous way; but most savage races keep their bows always strung. Herr Ratzel,[1] in his interesting monograph on African bows—which would have been still more valuable had the author been a practical archer—discusses this subject, and even seems to approve of the practice of keeping the bow permanently strung, as indicating 'a greater degree of being prepared for combat.' But the time needed for stringing a bow is infinitesimal, and the advantage to the weapon in loosening the tension when it is not wanted for actual use is so great that the invention of the free loop to the string must be regarded as indicating a considerable intellectual advance. It is true that many tribes, especially in Polynesia, use bows with the string fixed at each end, but of such a length as to put no strain on the bow. This plan has its own disadvantages, one being that a severe blow is inflicted on the wrist each time an arrow is discharged. In fact, after the first shot with a bow of this kind, even the toughest savage would find it necessary to do one of two things: either he must shorten the string, so as to

[1] *Die afrikanischen Bögen*, &c., von Friedrich Ratzel. Leipzig, 1891.

reduce the force of the blow on the arm, or he must invent some very efficient form of arm-guard or 'bracer.' Some races took one course, and some the other, but even with the short string a bracer is found necessary by most archers, though not by all.

The plain wooden bow, bending for the most part—though not invariably—in a single arch from end to end, and formed of a single stave, is, then, the simplest form of bow. The rudest and worst bows known are of this type, which also includes the English long-bow, the highest development of the weapon.

The best method of classification of the different forms of the bow is based on the materials employed in its manufacture. Three main groups may be recognised:

(1) Bows made entirely of wood;

(2) Bows made entirely of horn; and

(3) Bows compounded of various substances, such as horn, bone, wood, sinew, and so forth.

Bows have also from time to time been made of steel; but the recoil of this, or, indeed, of any metal, is so slow in comparison with that obtained from other materials, that a bow which would give the requisite swiftness of flight to an arrow would be beyond the power of the strongest man to draw. Steel bows have, therefore, never come into use, except in the case of the crossbow. As this weapon was drawn by a lever, or slowly and laboriously wound up by a moulin, the requisite force could be applied to draw bows of enormous strength. This weapon does not come within the scope of the present work, and therefore metal bows need not be further considered.

The following Table is drawn up for the purpose of enabling the reader to grasp at one view the main divisions of the various types of bows. There are many varieties of each form given here:—

- **Bow**
  - **Wooden**
    - (1) Single stave
      - (1) Simple arcus, i.e. bending in one continuous curve. (The old-English form, and very widespread : the typical African form)
      - (2) Upper limb more bent than the lower. (New Hebrides, Andaman Isles, &c.)
      - (3) S-shaped. (Andaman Isles, ancient Egypt, &c.)
      - (4) Ends more or less reflexed. Approaching composite bow in shape. (N. America)
    - (2) Made of two or more pieces
      - (1) Two 'self' staves joined in the hand. (The best type of wooden bow, Modern English)
      - (2) Made of two or more pieces joined together longitudinally. (Japan and Lapland, and modern English)
  - **Horn**
    - (Ancient Greece, modern Java)
  - **Composite**
    - (1) With free backing of cords or sinews
      - (1) Simple longitudinal backing. (Eastern Eskimo)
      - (2) Longitudinal backing complicated with cross-lacing. (Western Eskimo)
    - (2) With close backing of sinews moulded on to the bow
      - (1) Sinews roughly moulded close on to the back of the bow. (American Indians)
      - (2) Sinews carefully worked into the composition of the bow. The whole encased in bark or lacquer. (The highest type of composite bow. Turkish, Persian, Indian, and Tartar)
- **Crossbow**
  - Wooden
  - Metal
  - Composite

It is obviously impossible, within the limits of this work, to describe and figure more than a very small proportion of the kinds of bow used by man. It may, however, be useful to notice a few typical examples of each of the above divisions.

THE WOODEN BOW

The first class, viz. the wooden bow, consisting of a single stave, is undoubtedly the oldest and the most widely spread, and, at its best, the most efficient of all. In this class is the English war-bow of the Middle Ages, of which, unfortunately, but few specimens have come down to us. A reference to Mr. Balfour's map at the end of the book shows that the

single-stave wooden bow is found throughout Western Europe. From the earliest times it has been the only form of bow—the crossbow, of course, excepted—which has gained any hold in that region till recently, when backed bows, and bows of two staves joined in the hand, have been introduced. It seems to have been peculiarly the weapon of the Northern races—the Normans, the Scandinavians, the English, and the Flemish; whilst in Southern Europe the crossbow was the favourite weapon. The yew bow of a single stave is the weapon with which Duke William defeated the Saxons at Hastings, and with which the English fought and conquered at Creçy, at Agincourt, and at Flodden Field. This bow is dealt with at length in Chapters VII. and VIII.

The single-stave wooden bow is very widely distributed over the world. Except in the island of Java, no other is used throughout the Pacific, south of the Tropic of Cancer; and, with certain trifling exceptions, the same may be said of the entire African continent. It occupies almost the whole of South America, and is found mixed with other forms in North America up to the regions inhabited by the Eskimo. It is also largely found in Southern Asia. Rarely, however, save in Western Europe, do we find it the weapon of a warlike and powerful race. Throughout these regions the weapon is a feeble one, as compared with the European yew bow, or the powerful and highly finished composite bow of Asia. It is serviceable for hunting, and no doubt was still more so before the game had been rendered wild by firearms. It is valuable for tribal wars, especially for fighting in the protection of forests, where a body of savages can harass an enemy with silent arrows, which hardly give any indication of the whereabouts of the archers; while in many regions poison is smeared on the points, of so deadly a character that a scratch would prove fatal. But the weapon is too feeble to cope with the spear and the sword in the open field, and we find it more in use among the weaker than the dominant races. In Africa, for instance, we find that the Arabs of the Soudan, the Masai

of East Africa, and the Zulus and their cousins, the Matabele of the South, fight with the spear; with what vigour and bravery many a British regiment can tell. But white men have seldom found any vigorous resistance from natives armed with the bow. The feebler Hottentots, the diminutive Bushmen, the hunting-tribes of Central Africa, and many others, have often harassed the white man's caravan on the march through the dense forest, but they have never emulated the deeds of Fuzzy Wuzzy, who, as we well know, with his spear charged and 'broke a British square.' Herr Ratzel bears witness to the inferiority of the African bow to the spear.[1] He says: 'In the basin of the Congo the bow has retired before the spear. Quite a number of nations dwelling and ruling along the principal stream, or its tributaries, have laid it aside; for example, the Ba Ngala and the Ba Ngombe completely, and the Ba Kuba partly. It is the weapon of the oppressed and of the non-organised of the dwellers in the forests or on the savannahs.'

Herr Ratzel gives an elaborate classification of the forms of African bows, and those who wish to study this subject in detail may be referred to his work. The typical African form is that represented on p. 30 (fig. 21, A and B), and that this form has persisted from time immemorial may be seen by a comparison with fig. 21 C, which is from a tomb in ancient Egypt. Except that the one bow is strung and the others unstrung, the bow that was made over 2,000 years ago might easily be mistaken for those which were made probably within the last twenty or thirty years.

This form varies considerably among different tribes, and probably even with different bows from the same tribe. Thus, some bows are longer and others shorter, some are carefully finished and polished, others are rougher, and even are left with the bark on. Some tribes use animal sinews for their strings, others rattan, or fibres from other plants. In some cases a spare length of string is wound round the bow, and in others the bow is wholly or partially wrapped with snake or lizard

[1] *Die afrikanischen Bögen*, von Friedrich Ratzel. Hirzel, Leipzig.

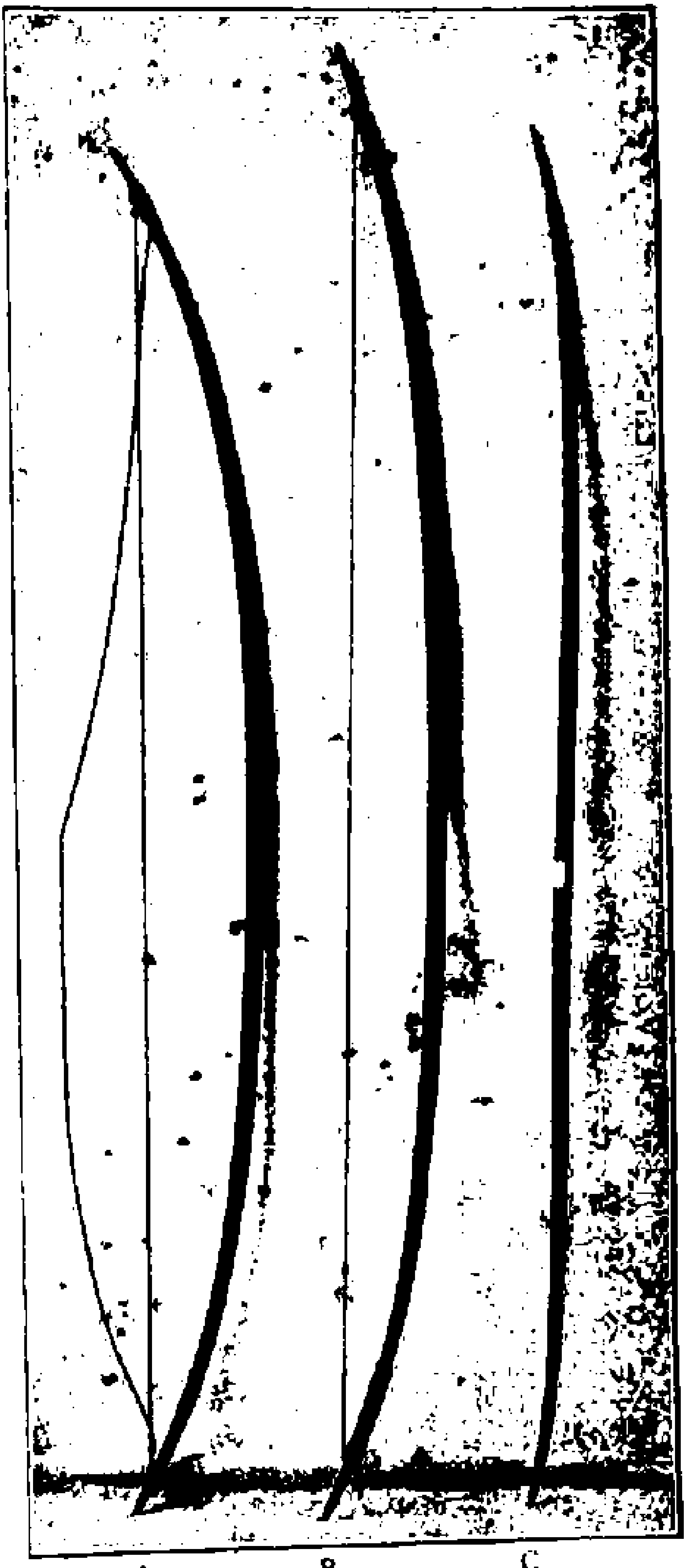


FIG. 21. A and B, African bows; C, ancient Egyptian bow
(Coll. C. J. Longman)

skin, or even iron rings. These wrappings are in some cases, no doubt, ornamental, and in others they help to preserve the bow, especially from longitudinal splits, or 'shakes.' It does not seem possible that any transverse wrapping can be put on with the idea of reinforcing the power of the bow, though Herr Ratzel suggests that this may be the case. One feature appears to be almost universal—namely, that the string is permanently fixed at both ends. The stave is saturated with oil and bent to the required shape over a fire. The string is then finally fixed.

As has been already noted, the practice of keeping the bow permanently strung, which Herr Ratzel approves, is, in fact, very detrimental to the cast of the bow. To fix a string comparatively loosely to a stave which has been moulded into the shape of a strung bow by the method above described, might at first appear to be less harmful than keeping a straight stave always strung, as little or no tension would exist. The latter system is, however, in reality the worse of the two, as the mischief is already done by warping the stave permanently out of its original shape. In its natural shape it would possess sufficient energy to recover its original form when the string is loosed, and part of this elasticity is wasted when the fibres are softened and moulded so as to retain permanently a bent form. In the same way, an English self-yew bow, after much work, will begin to 'follow the string'—that is to say, it remains permanently somewhat bent when unstrung. When this occurs a bow is often softer and pleasanter to shoot with than it is in the first vigour of its youth, all jar having disappeared. But part of its elasticity is gone, never to return.

Many varieties of the single-stave wooden bow exist in the islands of the Indian Ocean and the Pacific, one of the most peculiar of which is used by the natives of the Andaman Islands. This bow will be noticed at some length, both on account of its intrinsic interest and also because the laborious researches of Mr. M. V. Portman have enabled the present writer to give a more complete account of the manufacture of

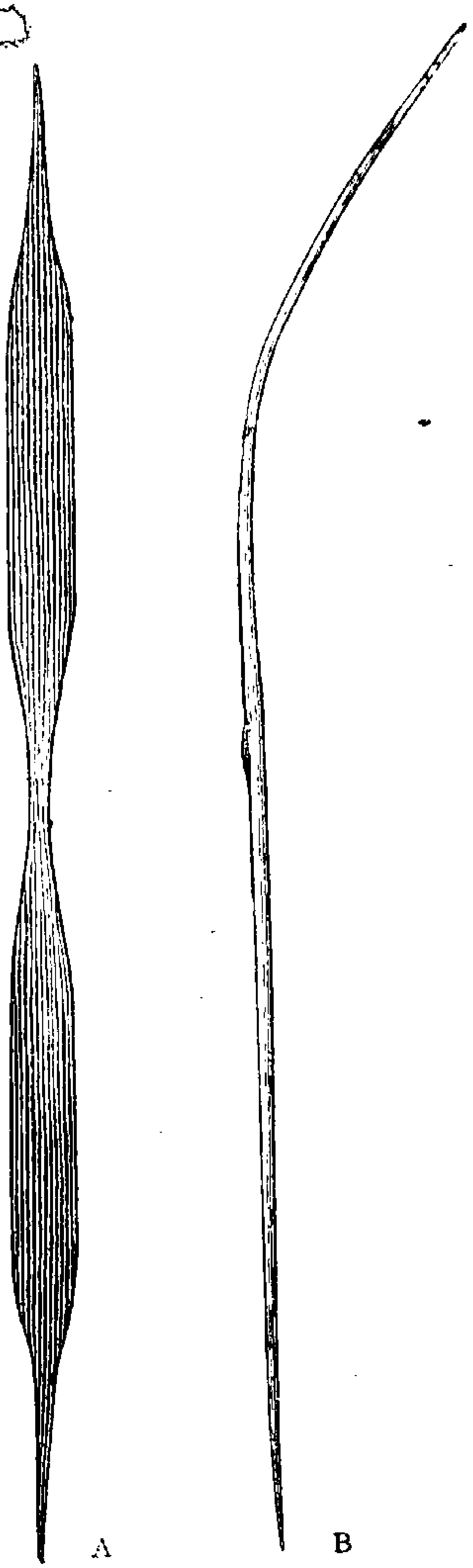

A B

FIG. 22. A, South Andaman bow; B, North Andaman bow (*Coll. C. J. Longman*)

the bow and method of using it in vogue among the Andaman Islanders than, perhaps, has been hitherto published of any other savage race. Mr. Portman has been engaged in studying this race for fourteen years, and being an accomplished photographer, has taken many hundreds of pictures of them in their various occupations. He describes them as being the only race of pure negrito blood in the world. They are now, however, taking to Indian customs, and, moreover, dying out, so that in the interests of ethnography it is to be hoped that Mr. Portman will publish his unique record of an interesting race which is doomed to disappear. He has kindly given permission for the reproduction of a selection from his photographs—from which we can actually see the bow made before our eyes—and also allowed the use of his unpublished notes, so far as they relate to archery. The manufacture only of the bows and arrows is dealt with in this chapter.[1]

[1] For the archery of the Andamanese, see Chapter VI.

The Andaman bow presents somewhat the appearance of a two-bladed paddle, the limbs each consisting of a thin blade tapering to a point at the upper and lower ends respectively, and being merged into a round handle in the centre. Two

FIG. 23. Andaman Islander [illegible]
(*From a photograph by Mr. Portman.*)

forms of this bow exist, viz. the North Andaman bow, in which the upper limb is much more bent than the lower; and the South Andaman, in which the limbs are nearly even, but are somewhat S-shaped when unstrung.

Several different woods are used for bow-making, the important point being that the piece of wood selected should be nearly the same shape as the finished weapon ; that is to say,

FIG. 24. Roughing out the bow
(From a Photograph by Mr. Portman)

bent in the case of the Northern, and straight in the case of the Southern, bow.

Having selected a suitable tree and barked it, the native then cuts it down with his adze, and proceeds to rough out his

bow with the same weapon. By degrees the bow begins to assume its peculiar paddle shape, the ends are pointed. and the 'waist' is cut out for the handle.

FIG. 25. Shaping the bow

(*From a photograph by Mr. [illegible]*)

The bow is now ready for finishing. The bowyer sits on the ground, and takes hold of the end of the bow between the first and second toes of his left foot. He discards his adze, takes the tusk of a boar, which has been sharpened

with a Cyrena shell, in his right hand, and steadying the bow with his left, smooths it all over, pushing the tusk from him as he works. When the surface of the bow has been smoothed, it is ornamented with dog-tooth patterns, the edge of the Cyrena shell being artificially serrated for the purpose. When finished, the bow is waxed all over. Should the bow be some time in the making, the worker occasionally leaves the wood

FIG. 26. Finishing the bow
(*From a photograph by Mr. Portman*)

soaking in water for a few hours to soften it and make it easier to work. A bow does not ordinarily take more than four days to make. Finally, each end is wound round for about two inches with fine twine, to make a projection on which the bow-string is to rest. As the bows are not made of seasoned wood, they do not last long, but soon split, and, indeed, their shape is not one which is likely to stand much work.

The next thing is the string, which is made of yolba fibre

(*Anadendron paniculatum*), which is spun by being rolled on the thigh. The string is then carefully waxed with beeswax, and finished with a whipping of twine and a knot where the arrow is held. The string is first slipped on to the upper or

FIG. 27. Stringing the bow.
(*From a photograph by Mr. Portman.*)

bent end of the bow, which is then reversed and placed on the ground against a stone, or in a nick, and the lower end (as in the figure) is pulled down. The stringing and unstringing are done at the lower or straight end of the South Andaman bow.

The shafts of the arrows are made from bamboo, with a foreshaft of hardwood, as is commonly the case in the Pacific Islands. The butt of the arrow is often scored with the Cyrena shell, though not invariably. This would depend on the particular release practised by the artificer. If he used the primary release from between the forefinger and thumb the scoring would give a better hold. The largest game pursued with the bow in the Andamans is the wild pig, and for this

FIG. 28. Straightening arrows
(From a photograph by Mr. Portman)

purpose heavier and stronger arrows are needed; they are made from branches of trees and are straightened by hand and tested by eye—a rough test in use two thousand years ago by the ancient Greeks, as their coins testify. When moderately straight they are stuck in the ground round a low fire to dry slowly. The English archers' test of straightness by spinning an arrow with the right hand on the nails of the second finger and thumb of the left is probably not known, and even if it

were, it is to be feared few Andaman arrows would go through the ordeal successfully.

It is hard to say how this peculiar form of bow arose. The broad flat shape of the limbs must offer more resistance to the air than the same amount of wood in a cylindrical form, and, in fact, the bow is not a good one. A somewhat similar shape is occasionally found among the Oregon Indians and also among the composite bows of the Eskimo. The Eskimo cannot command the use of live wood, but depend on drift wood; and if this came to them in the form of a thin plank, the requisite strength could only be obtained by making the limbs broad.

It is, however, important to note that both the Oregon bow and the Andaman bow are reflex when strung—that is to say, they are drawn in the reverse direction to the curve which the bow assumes when unstrung. If the bow were thick, unless the wood were of wonderfully elastic and compressible character, this must result in fracture; it would, therefore, be a necessity to make the blade thin, and the only way to get the requisite strength would be to broaden it. Given, therefore, the intention to make a reflex bow,

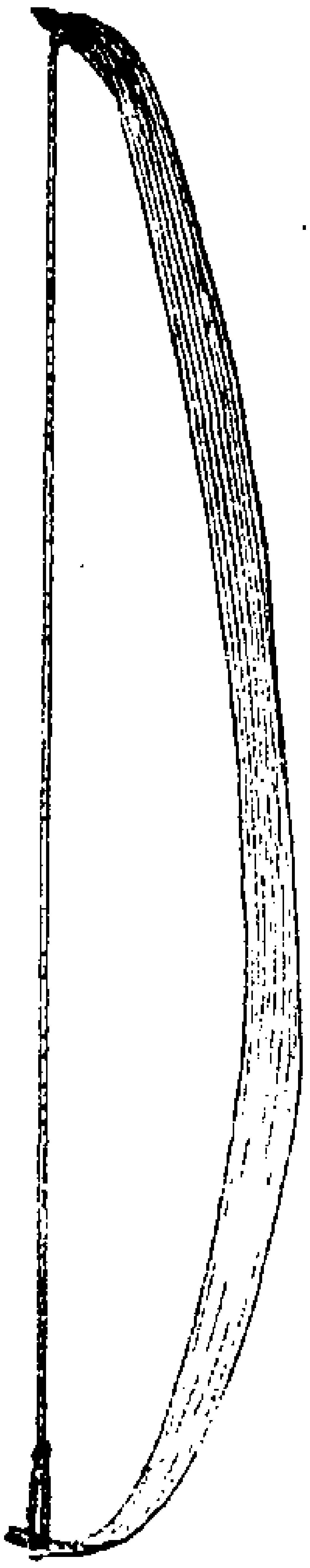


FIG. 29. Oregon Indian bow

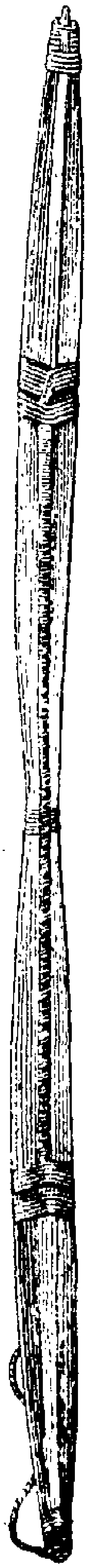


FIG. 30. Eskimo bow

(*British Museum*)

the paddle shape is probably the best form for a single stave bow. Both in the case of the Oregon Indians and in that of the Andaman Islanders true composite bows, which are always reflex, are to be found in sufficient proximity to make it possible that these bows, both in their recurving and in their flattened limbs, are, in fact, a reminiscence of the composite bow.

A very curious bow of this form was obtained by Major von Wissmann from the Shiré River in South-East Africa, the main difference from the Andaman bow being the central mid-rib, which suggests that it may have been copied from a leaf. This bow is in the Berlin Ethnographical Museum, but Herr von Luschan, the director of the museum, tells me that Major von Wissmann obtained it from a Portuguese who had seen an Andaman bow. It is possible, therefore, that it is not a native Shiré form. A somewhat similar bow from the same district is, however, in the British Museum; and Dr. Livingstone found this form near Lake Nyassa.

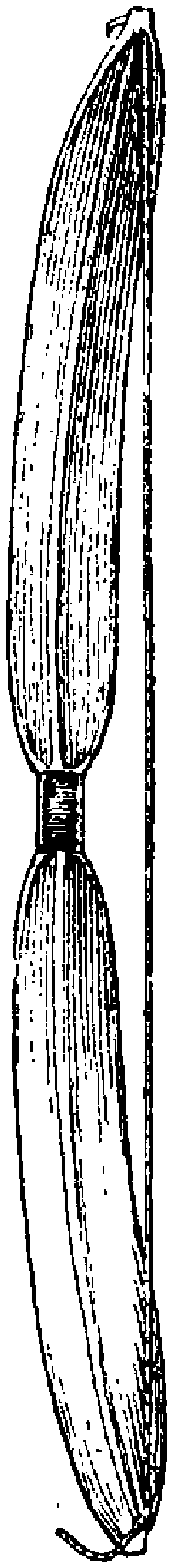


FIG. 31. Paddle-shaped bow from the Shiré River (*British Museum*)

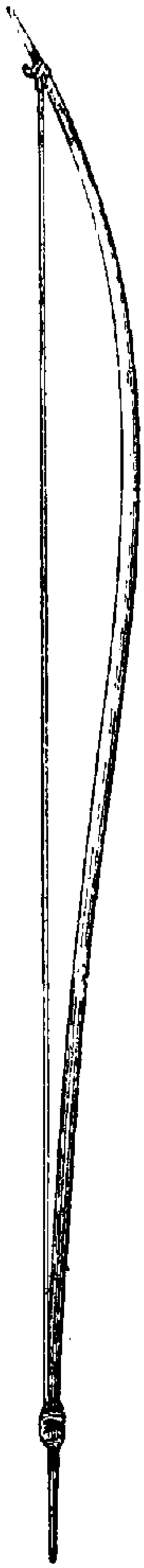


FIG. 32. New Hebrides bow (*Coll. C. J. Longman*)

The upper limb of the South Andaman bow, which is much more bent than the lower limb, recalls a similar form in various parts of the world. It occurs in greater or less degree in Africa, in New Guinea, in the New Hebrides, and also in Japan. In the Japanese bow the upper limb is far weaker than the lower, the handle or centre of resistance being about one-third the way up. In the New Hebrides bow the weak upper limb is also associated with the S-shaped curved lower limb, which is found in the North Andaman. All these examples, however, suggest our old friend the primitive 'gardener's' bow made from a growing stick weaker above than below, and it is possible that they represent an accidental peculiarity of shape which has survived from the days when bows were made after the gardener's fashion, and has been reproduced with no conscious reason after the methods of manufacture have been improved.

A very widely distributed peculiarity of the single-stave wooden bow, and one which is somewhat difficult of explanation, is a longitudinal groove or furrow sometimes running down the back, and sometimes the belly, of the bow. Major von Wissmann found this groove in some of the bows of tribes south of the Congo, and says it is characteristic of the Ba Kuba. Herr Ratzel in this fact sees evidence in favour of his theory of common descent between the African negroes and the Melanesians, because a similar feature is common in Melanesian bows. The peculiarity is, however, too widely spread to afford much support to this theory. The most marked example is in the Tongan bow, in the back of which is cut a deep furrow in which an arrow is carried. This practice cannot

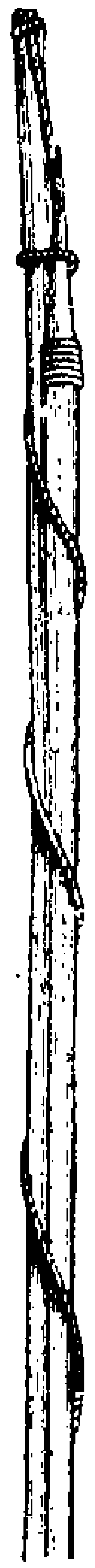


FIG. 33. End of Tongan bow, with arrow bound in groove (*British Museum*)

FIG. 34. New Guinea bamboo bow (*Coll. C. J. Longman*)

be favourable to the straightness of the arrow, but as it is only used for shooting rats at very close quarters that may be immaterial. It also exists in the bamboo bows of New Guinea (not in those made of palm-wood), in the Fiji bow, in the New Hebrides bow, and in the Friendly Islands. In the Pitt Rivers collection at Oxford is a Veddah bow with the same groove, and it is a common feature in the hard-wood bows of South America. There is also in the Berlin Ethnographical Museum a Bhil bow with a groove down the back, and in the Dresden Museum is a South American bow, in which a plaited fibre cord is tightly bound into the groove down the back, evidently to reinforce the spring of the bow after the fashion of the composite form. In the Solomon Islands bows are frequently decorated with two parallel grooves down the belly, filled with black resin.

General Pitt Rivers suggests that the object of the groove is to carry a spare arrow. In the case of the Tongan bow it undoubtedly is used to carry an arrow, which is tied into the furrow while the bow is not in use. This practice, however, does not seem to obtain elsewhere, and only in the Tongan case and in the South American above quoted is the groove of any practical value, while in all cases where a furrow is artificially cut it must weaken the bow.

The simplest explanation of a phenomenon which has been much discussed, and apparently the only one which covers all instances, will be found by going back to natural causes. The earliest form of the bow, as we have seen,

is a growing stem of suitable size. The first improvement would be to take a thicker stem and split it in two; in the centre where the pith runs up we should at once have a natural furrow,

FIG. 35. Veddahs with bows and arrows
(From a photograph)

and this is, in fact, the furrow still observed in the bamboo bows, interrupted at intervals by the joints of the cane. In the case of bows made from wood in which no natural joints occur the furrow would be continuous. When the bowyer's craft

advanced beyond the method of splitting a stave in two, and men learnt how to fashion bows from thick trunks of trees, the furrow was often continued for decorative purposes, and in the two cases we have mentioned it was turned to practical account.

There can be no doubt that the single-stave wooden bow was the original form throughout the continent of Asia, as in other parts of the world. It has, however, been driven out by the composite bow, which is superior to the wooden bow,

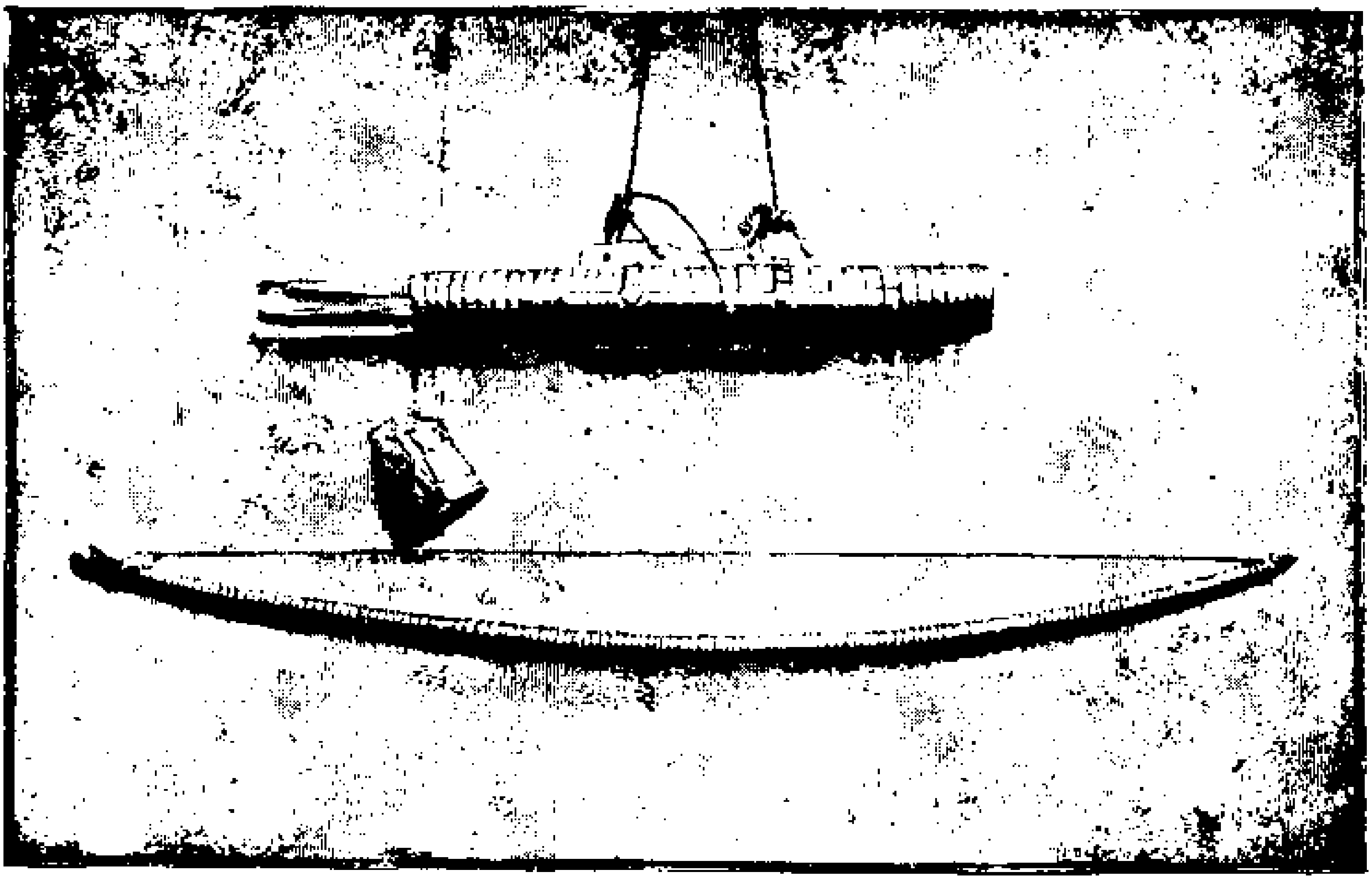


FIG. 36. Ainu bow and arrows
(From Batchelor's 'Ainus of Japan')

except in its highest form, in Western Europe. It still lingers among the aboriginal tribes of India and Ceylon. Those tribes, however, which relied on the inferior weapon were doomed to defeat. Their descendants still live among the hills—the Bhils, the Sourahs, the Veddahs, and so forth—a lowly and probably a degenerate race, still using the bow of their forefathers, which is their ancient title-deed to the soil. Another remnant is to be found of the aboriginal inhabitants of Asia in the Ainus of Sakhalin and of Yesso.

Hundreds of years before the Japanese landed in Yesso the Ainus were there, armed like their kinsmen of Sakhalin and the Kurile Islands with the old single-stave wooden bow. It availed them little against the superior weapons of their enemies, and they too are already degraded, and are doomed to extinction. It is the races which can adapt themselves to new conditions which survive; those which were not sufficiently versatile to live with the times and invent improved bows and arrows or adopt the inventions of others in old days went under, as do those races nowadays who endeavour to meet lead and villainous saltpetre with the bow and the arrow and the spear.

The only other form of wooden bow which requires notice here is the Japanese bow (fig. 37). It is entirely a wooden bow, though in structure it is composite, and it is evidently an offshoot of the composite bow. It is an example of the perverse ingenuity of the Japanese. Being a little people, they have constructed the longest bow in the world, except the gigantic weapons of the South American forest tribes. In structure it is a composite bow, yet they have made it of wood, and it bears this resemblance to the primitive or 'gardener's' bow—that it has a weak upper limb, the handle being about one-third of the way up. Again, the habit of wooden bows is to be straight when unstrung, or even to follow the string (though there are, of course, some partial exceptions), but this bow bends the reverse way, from end to end, as if it were a *bona fide* horn composite bow. It is generally made of

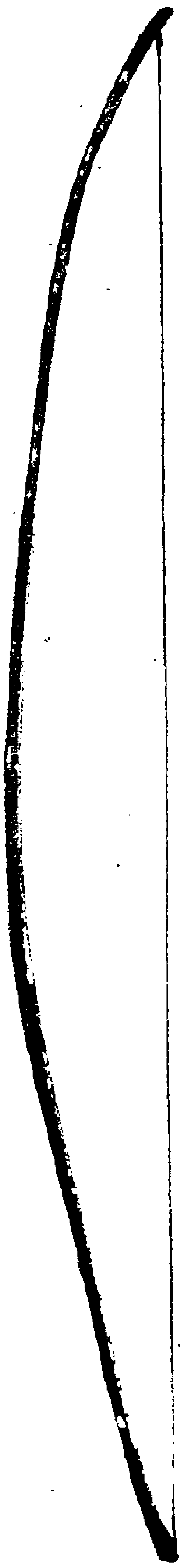


FIG. 37. Japanese bow (*Coll. C. J. Longman*)

three strips of wood glued and bound tightly together, after the fashion of our English 'backed' bows (see Chapter XVII.), the inner strip being of hard wood, and the two outer ones of bamboo. Sometimes it is bound all over, from end to end, with twine and occasionally lacquered, and sometimes the wood is left uncovered, being merely bound at intervals with a split cane. Altogether it is an interesting and original bow, worthy of its makers. I do not know of any other wooden bow made of two longitudinal strips of wood, except our English backed bows already mentioned, and the ancient bow of the Lapps, now long obsolete. In his History of Lapland, published in 1678, Scheffer describes this as being made of a strip of birch bound to a strip of pine, the whole being covered with birch bark. Mr. Balfour says that Indian bamboo bows are also made in this fashion, and he quotes a Chinese bow similar to the Japanese form.

THE HORN AND COMPOSITE BOWS

It is only within the last few years that any systematic study of the forms of the bow has been undertaken. This interesting branch of anthropology, so long neglected, is now being pursued with energy in England, in Germany, and in America. The most advantageous moment for such an inquiry has, perhaps, already passed, as the use of firearms is so widely spread that even in the most remote districts many tribes have entirely given up the use and manufacture of the bow. Their disuse of the weapon has, however, been comparatively recent, and nearly everywhere specimens are still in existence which show what is probably the most perfect form to which the different types of the bow will ever be brought.

The Composite bow is essentially, in historic times, the Asiatic form: throughout the whole range of Asia it has superseded the older wooden bow, which, as we have seen, only now remains in a few places in that continent, as the weapon of the lower and probably aboriginal tribes. In the middle ages it penetrated from Turkey far into the western portion of

Southern Europe. It is also found throughout the Eskimo region of North America, and thence it spread to some extent southwards. In the hands of the Indian tribes, within what is now the area of the United States, it had not, however, reached such a point of development as to oust even the inferior wooden bows in use there : but for the advent of the white man with his guns it is possible that it might have conquered America, as it had previously conquered Asia. The most primitive form of composite bow is that in use among the Eastern Eskimo, and it can be found in gradually increasing perfection, as one travels westward to the Pacific shores of North America, across the Behring Straits to the abode of the Mongolian races of Eastern Asia, and so on, till it reaches its highest development in India, in Persia, and in Turkey.

Although the Eskimo form is undoubtedly the least efficient, there is no direct evidence that it is the earliest form of composite bow ; but it seems highly probable that this was the case. In general structure all composite bows are made of some stiff material, such as wood, horn, or bone as the groundwork or frame of the bow, to which is added a backing of sinews which gives additional elasticity. Mr. H. Balfour was, I believe, the first to differentiate the form of backing in use among the Eskimo from the Asiatic form. In each case it consists of sinew. With the Eskimo, however, the sinews are plaited into cords, which are bound—often in an ingenious and highly complicated way—to the back of the framework of the bow. The Asiatic method (which is also used somewhat roughly by some tribes of North American Indians) is to take the sinew when damp, and mould it on to the back and into the composition of the bow, the whole being generally enclosed in Asia in an outer skin of bark or lacquer ; the North American Indians sometimes use snake-skin in the same way. Mr. Balfour's terms will be adopted here, the Eskimo method being described as 'free' backing, and the Asiatic method as 'close' backing. It is possible that free backing may have been originally used in Asia, and have been super-

seded by the superior close backing, but of this we have no direct evidence. A somewhat similar natural evolution seems to have taken place in North America. Geographically, it is hardly possible to doubt that a primitive form of the composite bow spread to the North American Indians from Asia *viâ* Behring Straits, and so southwards. But if this is so, there is so wide an interval of free backing among the Eskimo who separate the Tatar tribes (which use close backing) from the North American Indians that it seems certain that the latter must have themselves originated this improvement. This is made the more probable by the fact that the American Indian close backing is different in kind to, and much rougher than, that used in Asia. Unless, therefore, we are to suppose that the composite bow was invented independently by the Eskimo as well as in Northern or Central Asia, there is ground for inference that the free backing was universally the earlier form.

Probably the link between the wooden bow and the composite bow was the bow of pure horn. In the search after materials to improve the casting power of his bow, man would naturally be struck by the elastic properties of horns of animals. That bows were made of pure horn at an early date is rendered probable by Homer's description of the making of the bow of Pandarus in the 4th Book of the 'Iliad' (see Chapter IV.) Pure horn bows are occasionally found in Asia, and in the island of Java the horn bow is in use.

In making a bow of horn, whether of a pair of horns or of a single large horn, like that of a buffalo, split up to make the two limbs, the bow when made and unstrung would take the natural shape of the horns when growing on the animal's head. It would at once be found that the only way to get any spring from the bow would be to bend them the reverse way of the natural curve. Here we at once have the reflex bow (Homeric παλίντονος), which is essentially a horn form, and unsuited to the wooden bow. Mr. Balfour[1] says that Dr. Hickson showed

[1] 'Structure and Affinities of the Composite Bow,' *Journ. Anth. Inst.* vol. xix.

him a Javan horn bow which had found its way to New Guinea. The savage into whose hands it fell had never heard of a reflex bow, and, therefore, had fixed a rattan string of his own on the wrong side. History does not relate what success rewarded his efforts with the weapon thus treated.

The necessity of pulling back the bow to the reverse curve each time the weapon was used would soon suggest the desirability of keeping it 'strung' while in use, so as to save some part of this labour, and the rapid deterioration of the 'cast,' if the horns were permanently kept recurved, would quickly lead to the practice of unstringing it when laid aside for the time. Thus, the nature of the weapon would teach its owner a lesson which has not yet been learnt by many races whose bows are made of a duller material which is not put, moreover, to the severe strain of being recurved.

After the newly discovered horn bow had been in use some time it would naturally 'tire' or deteriorate somewhat. Its owner would then cast about for some substance to improve its efficiency. First he probably lashed a piece of wood on to its back,[1] about in the centre, to give it additional stiffness. Still he would find the ends, where the

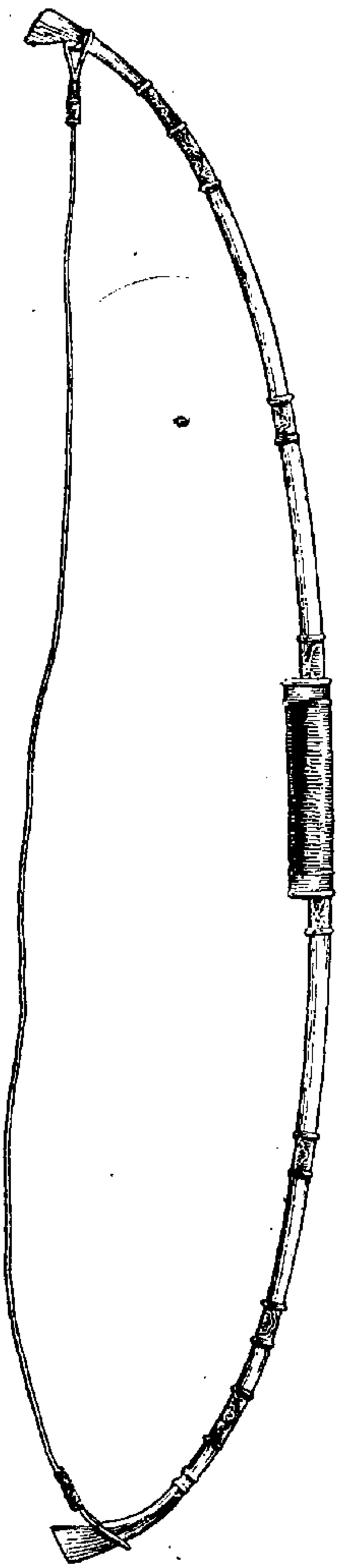


FIG. 38. Javan horn bow

(*British Museum*)

[1] The back is the side of the bow distant from, and the belly is the side of the bow nearest to, the archer in the act of shooting.

seded by the superior close backing, but of this we have no direct evidence. A somewhat similar natural evolution seems to have taken place in North America. Geographically, it is hardly possible to doubt that a primitive form of the composite bow spread to the North American Indians from Asia *viâ* Behring Straits, and so southwards. But if this is so, there is so wide an interval of free backing among the Eskimo who separate the Tatar tribes (which use close backing) from the North American Indians that it seems certain that the latter must have themselves originated this improvement. This is made the more probable by the fact that the American Indian close backing is different in kind to, and much rougher than, that used in Asia. Unless, therefore, we are to suppose that the composite bow was invented independently by the Eskimo as well as in Northern or Central Asia, there is ground for inference that the free backing was universally the earlier form.

Probably the link between the wooden bow and the composite bow was the bow of pure horn. In the search after materials to improve the casting power of his bow, man would naturally be struck by the elastic properties of horns of animals. That bows were made of pure horn at an early date is rendered probable by Homer's description of the making of the bow of Pandarus in the 4th Book of the 'Iliad' (see Chapter IV.) Pure horn bows are occasionally found in Asia, and in the island of Java the horn bow is in use.

In making a bow of horn, whether of a pair of horns or of a single large horn, like that of a buffalo, split up to make the two limbs, the bow when made and unstrung would take the natural shape of the horns when growing on the animal's head. It would at once be found that the only way to get any spring from the bow would be to bend them the reverse way of the natural curve. Here we at once have the reflex bow (Homeric παλίντονος), which is essentially a horn form, and unsuited to the wooden bow. Mr. Balfour[1] says that Dr. Hickson showed

1 'Structure and Affinities of the Composite Bow,' *Journ. Anth. Inst.* vol. xix.

him a Javan horn bow which had found its way to New Guinea. The savage into whose hands it fell had never heard of a reflex bow, and, therefore, had fixed a rattan string of his own on the wrong side. History does not relate what success rewarded his efforts with the weapon thus treated.

The necessity of pulling back the bow to the reverse curve each time the weapon was used would soon suggest the desirability of keeping it 'strung' while in use, so as to save some part of this labour, and the rapid deterioration of the 'cast,' if the horns were permanently kept recurved, would quickly lead to the practice of unstringing it when laid aside for the time. Thus, the nature of the weapon would teach its owner a lesson which has not yet been learnt by many races whose bows are made of a duller material which is not put, moreover, to the severe strain of being recurved.

After the newly discovered horn bow had been in use some time it would naturally 'tire' or deteriorate somewhat. Its owner would then cast about for some substance to improve its efficiency. First he probably lashed a piece of wood on to its back,[1] about in the centre, to give it additional stiffness. Still he would find the ends, where the

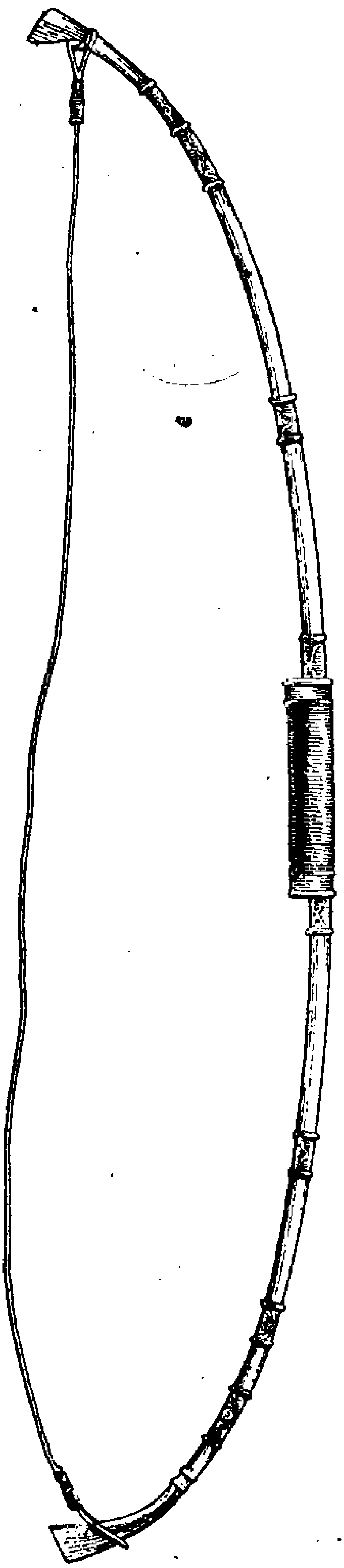


FIG. 38. Javan horn bow

(*British Museum*)

[1] The back is the side of the bow distant from, and the belly is the side of the bow nearest to, the archer in the act of shooting.

spring should come from, grow feeble and tend to lose their natural curve and straighten, or even 'follow the string,' at the tips. He would then restore them to their natural shape by running a thong along the back of the bow (the concave side when it is unstrung), which would be secured by being seized tightly at intervals along the bow, with transverse lashings. His thong would probably be made of animal sinew, and he would now find his bow restored to its former power, or perhaps something more. This picture of the actual course of events in the evolution of the composite bow is, of course, imaginary, and no doubt the ultimate result was, in fact, arrived at after many experiments and failures. Here, however, we have the groundwork of the weapon and the lines which are followed, in all the best types, the three main factors being :—

(1) Horn, being a compressible material for the belly.

(2) Wood as a stiffener, especially for the centre, and (as we shall see subsequently) for the ears.

(3) Sinews, an elastic stretchable material for the back.

No doubt it was a bow roughly made of these materials which ousted the primitive wooden bow throughout Asia, and spread through the lands of the Tschutshis of Eastern Siberia to the Eskimo of North America.

The writer feels bound to admit that in propounding this view of the origin of the composite bow he is somewhat in conflict with the views expressed by no less an authority than General Pitt Rivers,[1] who in discussing Mr. Balfour's Paper on the composite bow contends that this weapon must have been invented either from necessity, from the lack of materials of which to make a plain bow, or from a desire to improve upon the existing plain bow. He chooses the former alternative—viz. that this bow was invented in the far north, or at any rate in regions where a rigorous climate then prevailed, from lack of materials wherewith to make a plain bow. He admits, however, that if it could be shown that the composite bow was an improvement on the pre-existing plain bow, his opinion on

[1] *Journ. Anth. Inst.* vol. xix. pp. 246 *et seq.*

this point might be modified. It may here be pointed out that the yew, which is the best of all woods for making bows, is by no means a tropical tree, and further that so far north as Lapland the natives had no need to resort to a composite bow, but found plenty of birch and pine from which to manufacture a plain one. Moreover, all records show that the composite bow, at its best, is, in fact, superior to all forms of the bow, with the possible exception of the long-bow of Western Europe. We have already seen that in regions where the composite bow is general the plain bow still remains in the hands of aboriginal and unprogressive tribes. There seems, therefore, little room for doubt that the wooden bow was the earlier form, and the composite bow developed subsequently as an improvement.

If we have correctly traced the route from west to east along which the knowledge of the composite bow was spread, we ought to find the most primitive form among the people who dwell at that point farthest to the east, at which the form eventually arrived. This expectation is confirmed by fact, as it is among the Eastern Eskimo that the simplest and least efficient form exists. Fig. 39 represents a bow of the Eastern Eskimo from Cumberland Gulf, for which I am indebted

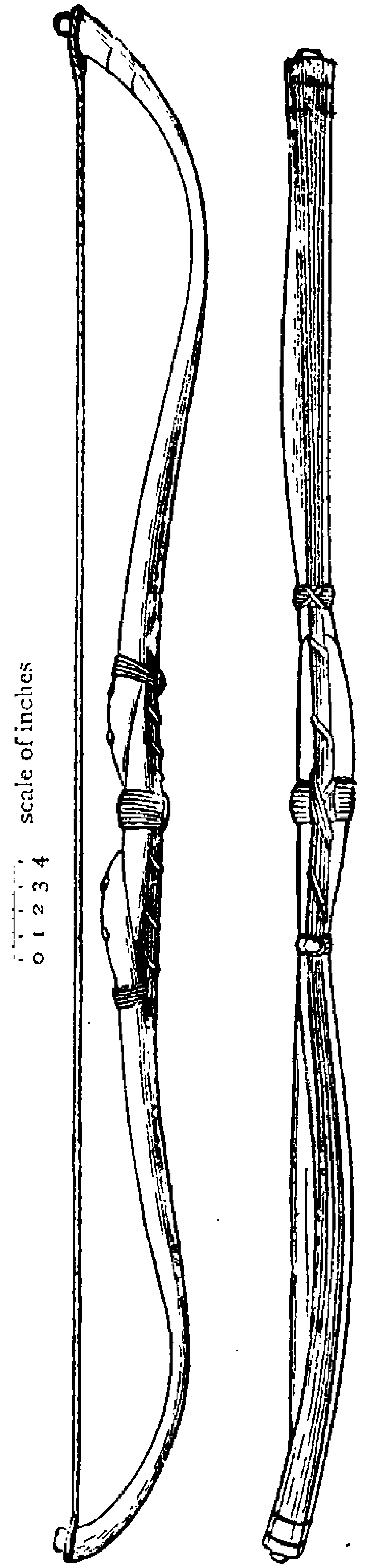


FIG. 39. Two views of Eastern Eskimo bow

to Mr. J. Murdoch's interesting 'Study of the Eskimo bows in the U.S. National Museum.'[1] This bow is somewhat more simple even than the typical example of a primitive composite bow evolved above. The difference lies in the materials available. Whereas in Central Asia growing wood is plentiful, and horns of different sorts are to be obtained, the Eastern Eskimo had no wood but driftwood, and for horn he was confined to the antlers of the reindeer. In the specimen figured, the frame of the bow consists of reindeer horn only, but in others bits of drift-wood are also used. This bow Mr. Murdoch considers to be the original type from which the three varieties in use among the Western Eskimo are derived. It is probable, however, that the improvements were not originated by the Eskimo, but were received in successive waves from the Tatars of Eastern Asia. Those who wish to study these forms in detail may be referred to Mr. Murdoch's monograph. All of the three varieties distinguished by Mr. Murdoch have the free backing of thongs, but in the case of the Western varieties it is of a far more extensive and complicated kind than in the Eastern bow. Fig. 40 (taken from Mr. Murdoch's work) represents the backing on a bow from Wainwright's Inlet now in the U.S. National Museum. It represents a segment of the bow the natural size. Fig. 41 (also from Murdoch) represents a bow with similar backing, in the same museum. It is from Point Barrow, and, as is frequently the case on the western shores of America, in the neighbourhood of Behring Straits, the form of the ends distinctly recalls the Tatar form found in Eastern Siberia.

It is a curious fact that the composite bow increases gradually in size in its range, from west to east, until Eastern Siberia and Greenland are reached, where the poor materials are no doubt responsible for the smallness of the bows. The smallest of all is the diminutive Turkish bow, which is also probably the most efficient. The specimen in the possession of the Royal Toxophilite Society, which belonged to Mahmoud

[1] *Report of the Smithsonian Institution*, Part II.

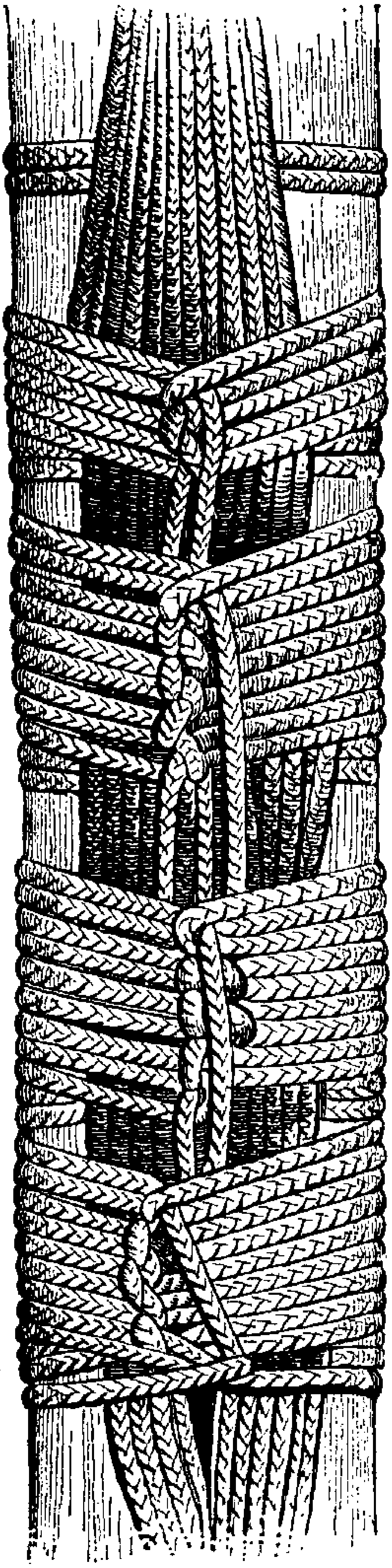


FIG. 40. Backing on Eskimo bow (1/1)

0 1 2 3 4 scale of inches

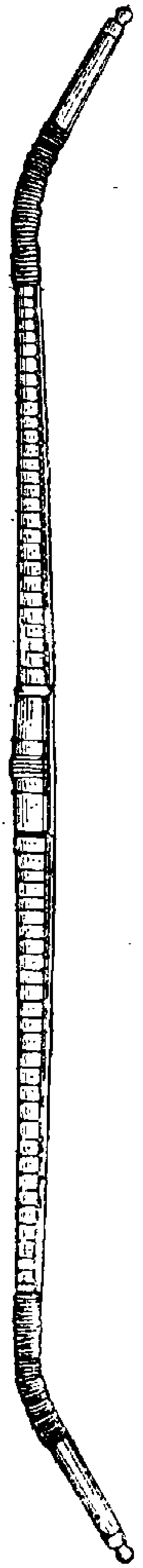


FIG. 41. Eskimo bow of Tatar shape

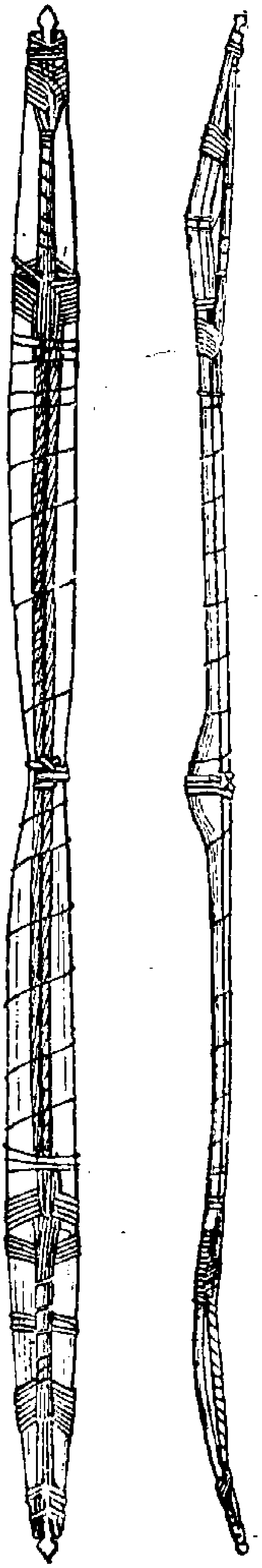


FIG. 42. Two views of bow from E. Siberia (*Murdoch*)

Effendi, the Turkish Secretary of Legation in London in 1795, is figured on the illustration on p. 55, all the other bows being in the museum at Oxford. The Persian and Indian bows are somewhat larger, and largest of all the pure composite bows is the powerful Chinese bow. Farther east again, and still longer, is the curious Japanese bow, to which reference has already been made. Those who wish to study the differences in structure of the varieties of the composite bow will find much interesting detail in Mr. Balfour's Paper mentioned above. It will be sufficient here to give (by Mr. Balfour's kind permission) a brief account of his dissection of a Persian bow, and also reproductions of his sections. The figures of the complete bow, and of the sections, are taken from two examples almost identical in size and character, now in the Oxford Museum (fig. 44). They are estimated to be about two hundred years old. In describing the bow Mr. Balfour's names for its different parts are made use of. The dotted lines indicate the points at which the sections were made. It will be remembered that the main constituents of the composite bow were threefold—viz. horn, being a compressible substance for the belly; wood, to give stiffness to the centre; and sinew for the back, to give elasticity and 'cast.'

Fig. 45 represents the first section through the centre of one of the 'arms' (or, as archers say, 'limbs'). Here we find the centre (*a a*) consists of two pieces of wood, scored with grooves, to give a hold to the glue by which the sinews are attached. The belly (*b b*) is made up of numerous strips of horn, and the back consists of a thick layer (*c*) of longitudinal sinews mixed with glue, and well coated on the outside with glue.

Fig. 46 shows a section through the ridge midway between the centre of the limb and the nock. This is the portion of the bow to which archers look for the 'cast.' If this should be dull and stiff, the cast will be heavy and slow, and *vice versâ*. Accordingly, we find that here the amount of sinew is increased, and the horn diminished.

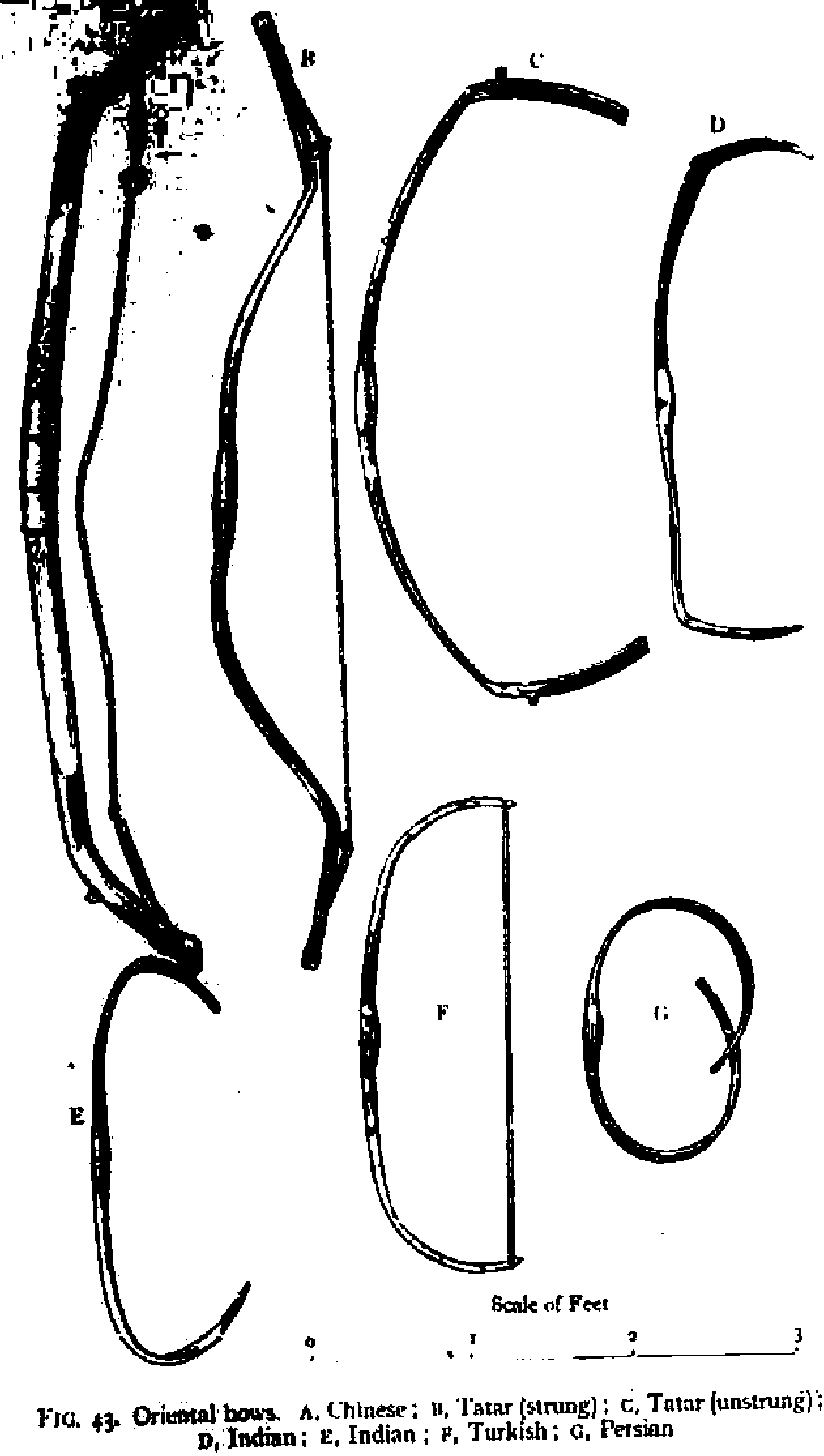


FIG. 43. Oriental bows. A, Chinese; B, Tatar (strung); C, Tatar (unstrung); D, Indian; E, Indian; F, Turkish; G, Persian

Fig. 47 is a section through one of the ears. The ear is intended to facilitate the reversing in stringing the bow. It acts stiffly on a hinge, as it were, at the 'shoulder.' Accordingly, the horn disappears from the belly, though a vertical

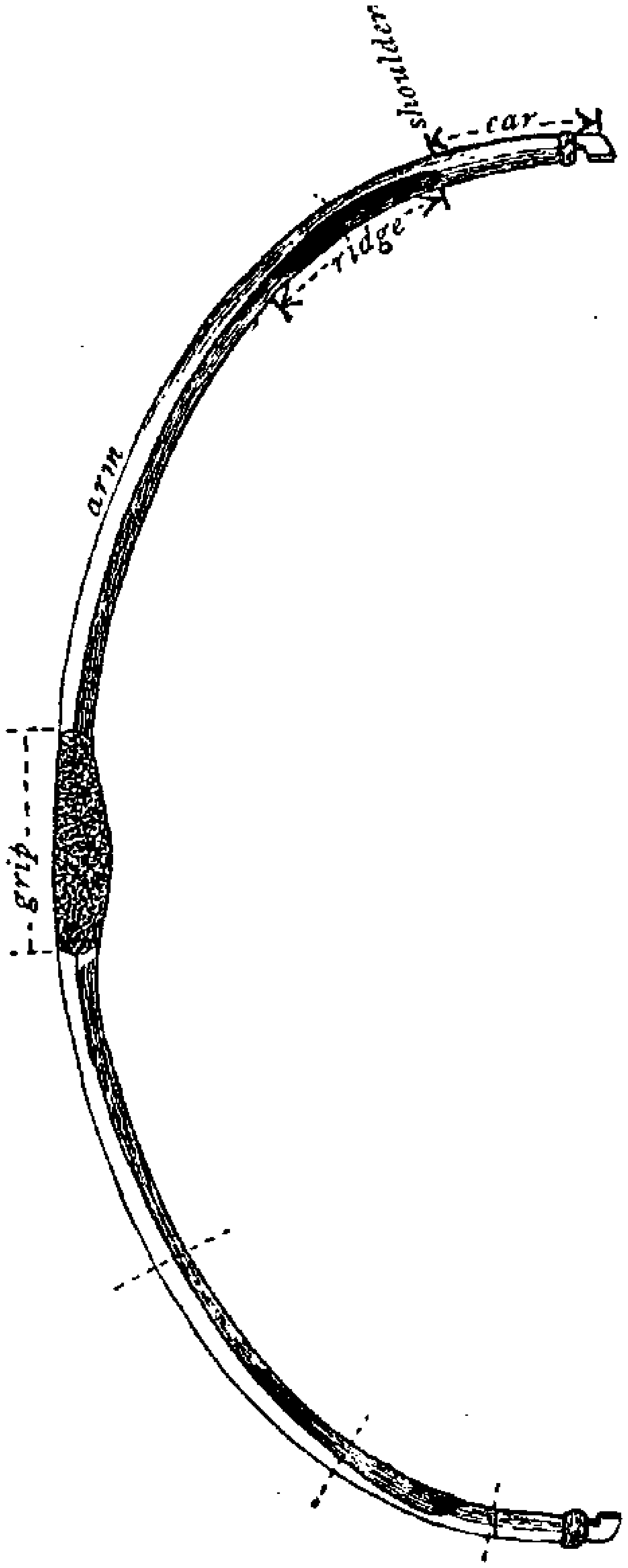


FIG. 44. Persian bow

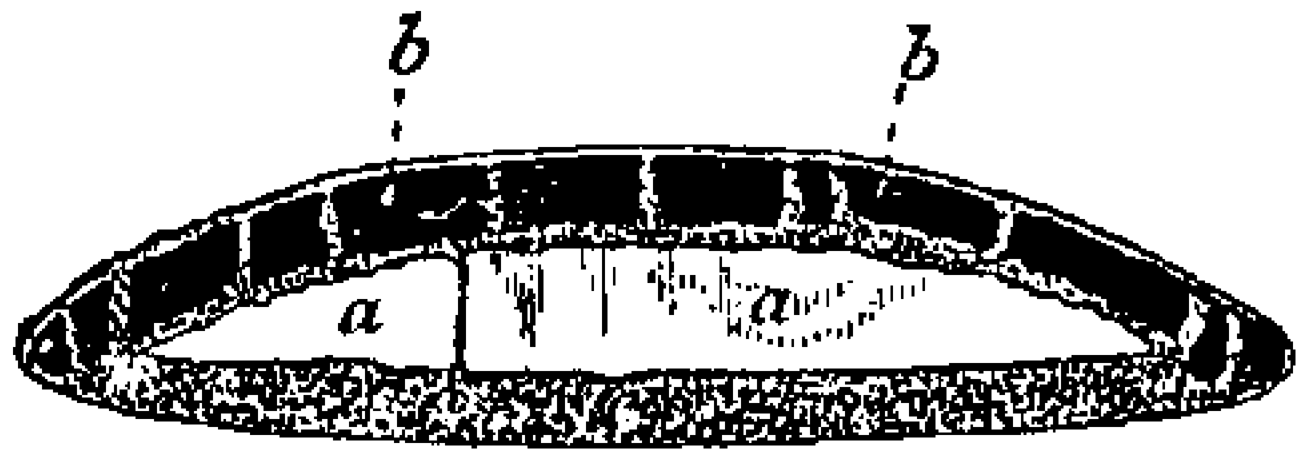


FIG. 45

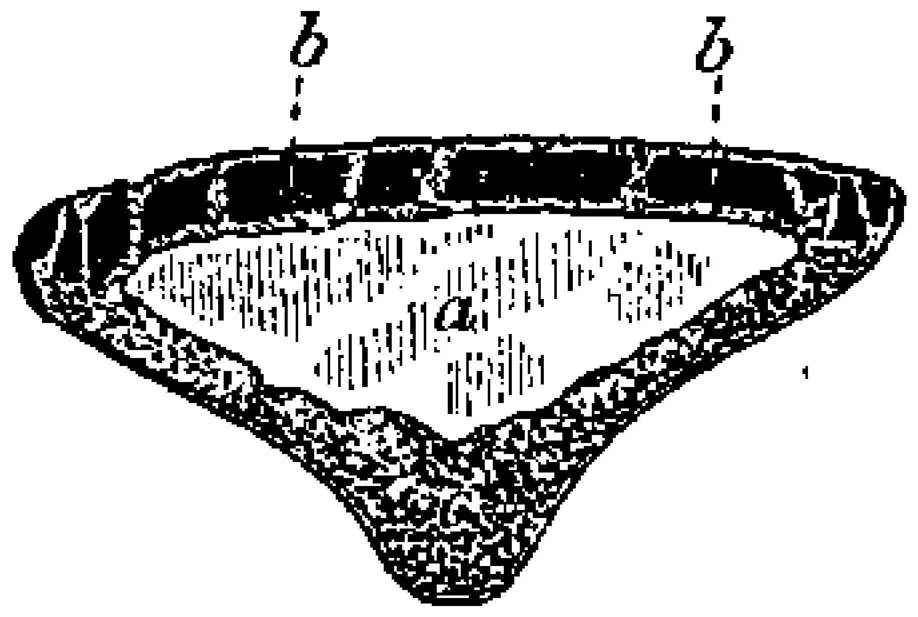


FIG. 46

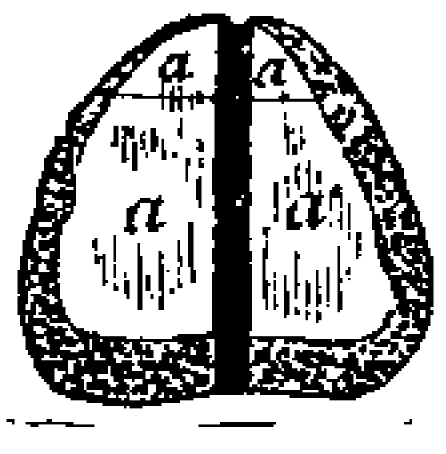


FIG. 47

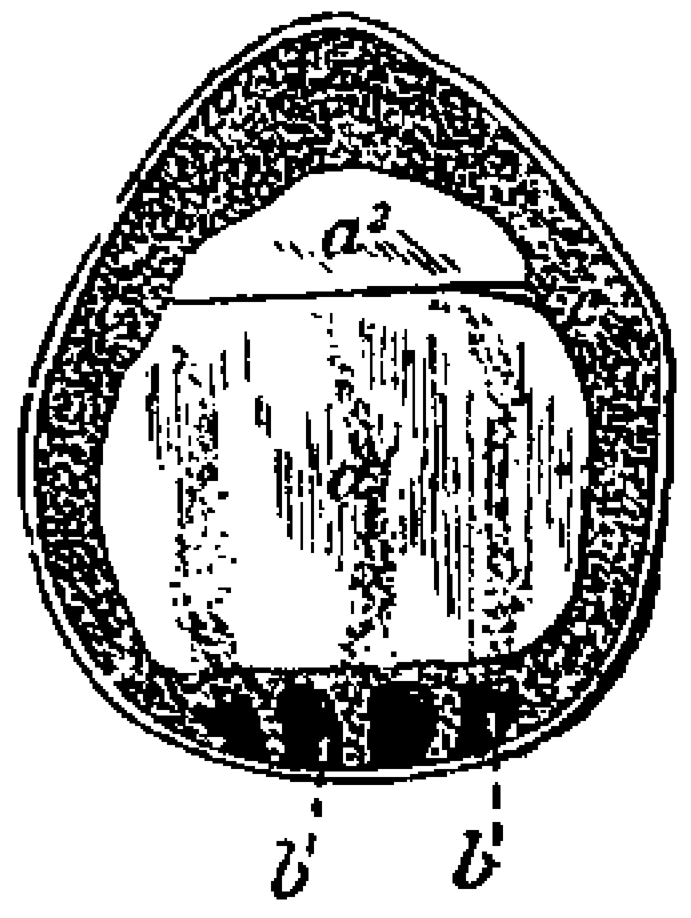


FIG. 48

strip appears, for what purpose is not quite obvious. The sinew is naturally reduced, and the proportion of wood stiffening much increased.

Finally, fig. 48 is a section through the 'grip' (or handle).

All archers know that a bow which 'bends in the hand' is uncomfortable and jolty to shoot with, and casts badly. This bow would seem to be well made in this respect. The amount of stiff wood is largely increased, and the compressible horn almost disappears. Altogether, it must be admitted that the disposition of the materials of which the bow is composed is quite admirable from the bowyer's point of view.

In the case of the Persian bow this elaborate structure is covered with a casing of birch bark, which, again, has an outer coating of lacquer, on which beautiful designs are often worked in gold. This casing of a greater or less degree of artistic finish is usual on bows of a composite form with close backing. The map illustrating this chapter (placed at the end of the book) has been drawn up by Mr. Balfour for this work, and is to some extent based on a map made by General Pitt Rivers. It is, however, a considerable advance on the previous map, especially in the distinction which Mr. Balfour has drawn between composite bows with close backing and those with free backing.

CHAPTER IV

NOTES ON ANCIENT ARCHERY

By C. J. Longman

It is obviously impossible within the limits of the present volume to attempt a history of archery as practised among the ancient inhabitants of the Mediterranean lands, and this chapter merely aims at supplying a few notes on some points of interest to archers connected with the use and structure of the bow in ancient times.

It appears that the bow was in use in all the lands bordering on the Mediterranean, in greater or less degree, from a very early date. It was, however, among the Assyrians and the Egyptians that it assumed its highest position as a military weapon. It is evident from the mural sculptures discovered by Sir A. H. Layard in the palaces at Nimroud and Kouyunjik, that archery was as important an arm in the Assyrian hosts as it was in the English armies in the Middle Ages. The mere fact that the king himself is generally represented in battle armed with the bow, sometimes even dismounted from his chariot, and shooting at his enemies on foot, shows that the weapon was held in the highest repute. So important was the archer considered, that we find him accompanied by a shield-bearer, whose business it was to ward off the arrows of the enemy. Sometimes the Assyrians fought in groups of three, consisting of an archer, a shield-bearer, and a swordsman. At other times we find one shield-bearer allotted to two archers, as in the illustration (fig. 49). Frequently the archers fought from chariots, and here, again, we find them protected by a

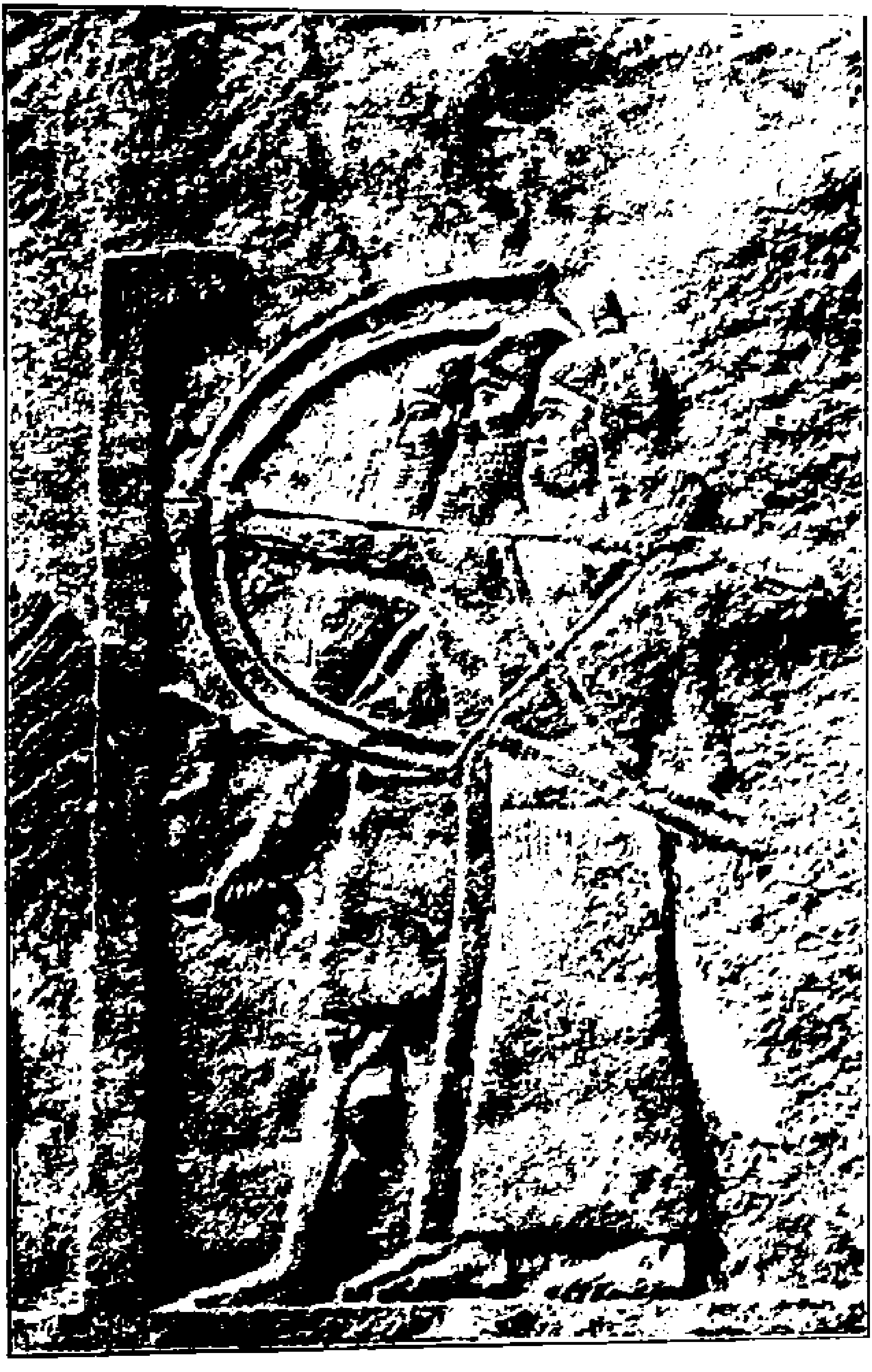


FIG. 49. A[illegible] F[illegible]

From a Sculpture in the British Museum. About [illegible]

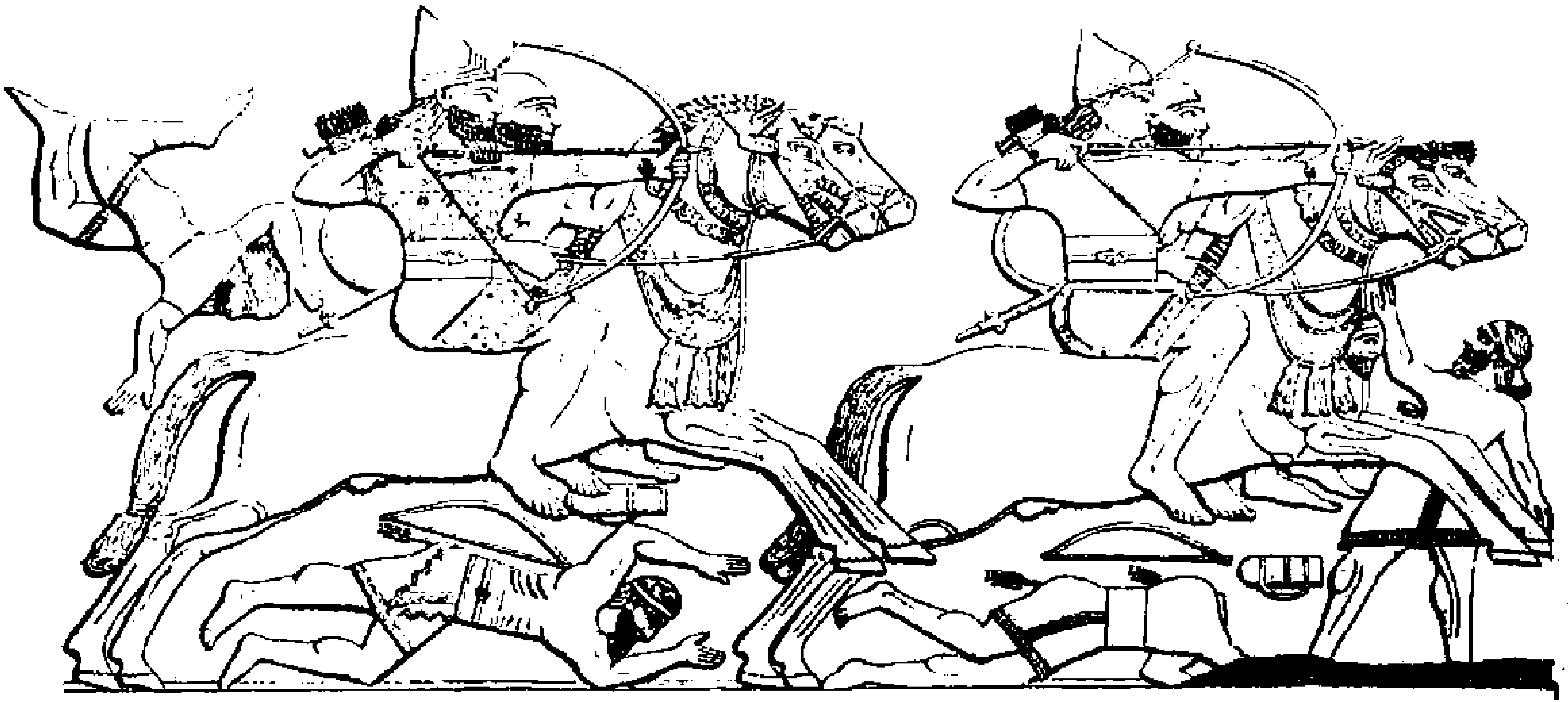


FIG. [illegible] HORSE ARCHERS ABOUT B.C. 884

From 'Layard's Monuments'

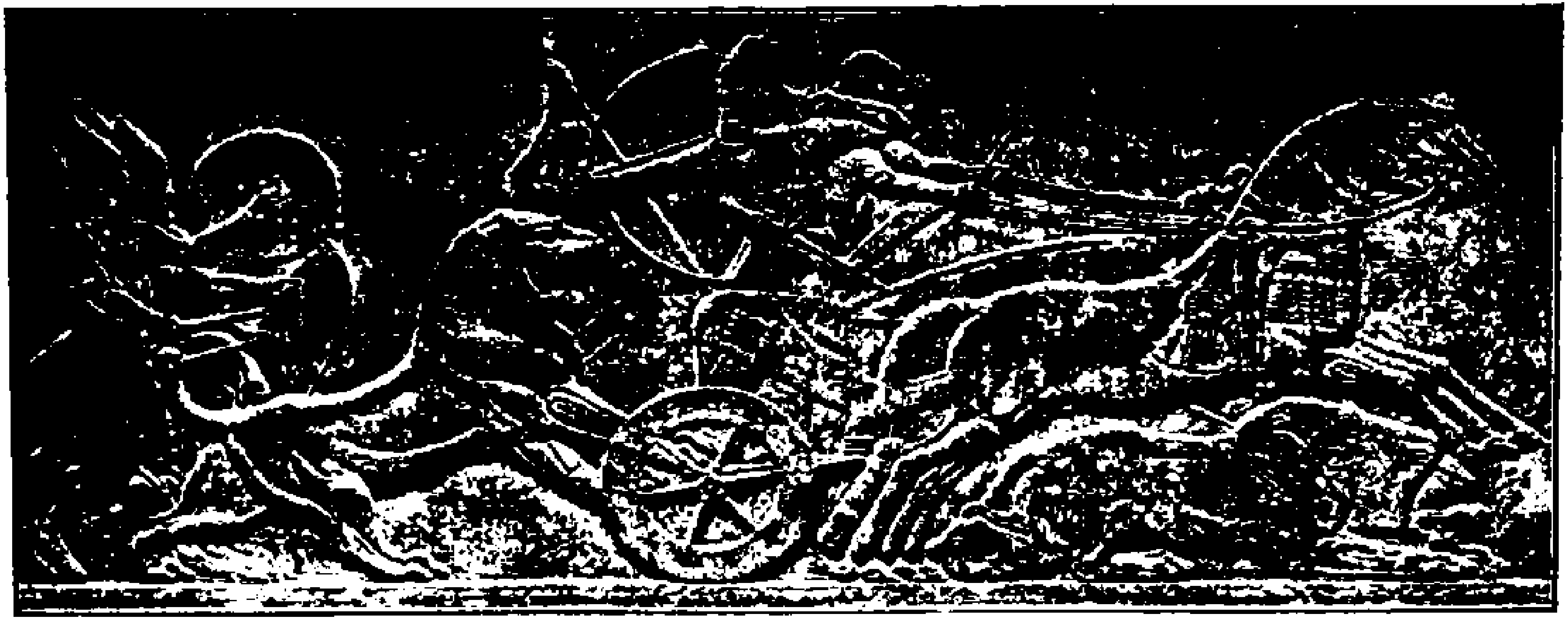
shield-bearer. Horse-archers were sometimes employed, also in pairs, one horseman holding the reins and guiding both horses, while the other used his bow (fig. 50).

It would be not unnatural to suppose that, considering the large number of representations of archers and of bows that have come down to us, little difficulty would be found in recognising the structure of the bow used by the Assyrians. This, however, is very far from being the case, as the Assyrian bow, and to some extent the Egyptian bow, has been the cause of great perplexity in the minds of inquirers. It is evident that the Assyrian bow was an efficient and powerful one, not only from the fact that it was the principal weapon of war, but also because their kings and nobles appear to have relied on it largely in hunting even so formidable a beast as the lion. Fig. 51 shows King Asshur-na-zirpal. He has apparently slain one lion, and is shooting at another. Now it is evident that, if the bow was a trustworthy weapon against lions, it must have been capable of delivering an arrow with great force. Yet, to judge by the sculptured representations, the bow was as ill-made a weapon as can be conceived. We must therefore conclude, either that the sculptures are inaccurate, or that the bow was of a construction somewhat different from any that we are accustomed to, and was capable of doing better work than its appearance would lead us to believe. The former alternative is the one which at first seems most probable. The Assyrian sculptors, though obviously artists of great skill, were unacquainted with many of the elements of drawing, and frequently made the sort of mistake which children make in their first efforts. For instance, they delight in showing in a picture more than the eye can see at one view. In depicting an archer in profile, with his back towards the spectator, they cannot resist introducing the drawing hand, as well as the back of the bow hand, when it would in fact be hidden by the body of the archer. Again, the artists frequently show no appreciation of the relative sizes of objects. It might therefore be argued, that if they make such obvious mistakes about matters of

which we are able to judge, their representations of objects such as bows are likely to be equally faulty. This would be an easy way of dismissing the question, but on the whole it does not seem the right view to adopt.

In the first place, though the sculptures abound in instances of ignorance of perspective, yet they appear to be singularly accurate and exact in the representation of details. Secondly, if we are to assume that the representations of bows are ill done, and drawn without any attempt at accurate delineation, it seems certain that they would vary considerably from each other. This, however, is not the case. Great numbers of representations of bows have come down to us, executed at periods distant from each other by hundreds of years, but the type of bow is remarkably constant. It is impossible to believe that this uniformity can be due to any other cause than the fact that the pictures were accurately drawn from the bows in common use throughout this period.

Fig. 52 represents King Asshur-na-zirpal with a strung bow in his left hand. At first sight this appears to be a bow consisting of a single wooden stave about five feet long, with almost every fault that a bow can possess. The curious angular shape which it shows violates the first principle of the bowyer's craft (according to our ideas), namely, that a bow shall have a stiff, unbending centre of a foot or eighteen inches, according to the length of the bow. This angular shape is very typical of Assyrian bows, and is also frequently found in Egyptian art, especially when Asiatic foes or mercenaries are depicted. Frequently, however, the bows are represented not absolutely angular, but always bending freely from the centre, and this is especially the case in the later sculptures of the time of Asshurbanipal. Bows with stiff centres occur in Egyptian art, but not, so far as I know, in Assyrian. Again, the bow appears to be of the same thickness all the way down, instead of gradually diminishing towards the ends. It is beyond all doubt that if this really represents, as it appears to do, a single-stave bow of wood, it is a bad bow.



[illegible] King [illegible] Bow

From a Sculpture in the British Museum. About B.C. 884

If we now refer to fig. 51, representing the same monarch, Asshur-na-zirpal, lion-hunting, we see what is presumably the same bow, or a bow of the same kind, fully drawn. This picture is as typical of the fully-drawn bow throughout the Assyrian sculptures as fig. 52 is of the bow when merely strung. This bow, again, bends very badly, judged by the standard of English wooden bows, as it bends right through the hand. The curve is, however, such as might be expected from the shape of the bow as depicted when strung, without any rigid centre. The length of the arrow, which is fully drawn to the head, is, moreover, so great when compared with the length of the bow that the two ends are brought much closer together than would be possible with any modern wooden bows without fracturing the bow. The curve described seems, in fact, to be only practicable with a bow made of a material far more elastic and less liable to fracture than any wood which, in modern times at any rate, has been used for bow-making. It is possible that the Assyrians knew of a wood which possessed the necessary qualities, which has long since disappeared or been forgotten, but it is improbable. Indeed, no 'self' bow, unless it were made of whalebone, could be expected to bend in the fashion of these Assyrian bows. The only remaining alternative, if we are to accept the evidence of the sculptures, is to assume that the Assyrian bow was in fact a composite bow. The appearance of the bow when strung affords little support to this theory, and, unfortunately, the ruins of Nineveh have not produced a single example of the Assyrian bow by which the question might be definitely settled. Fortunately, in the dry climate of Egypt a weapon has survived which may, perhaps, throw some light on the subject.

It will be remembered that the composite bow is, and has been from a remote period, essentially the weapon of Asia and of Eastern Europe; while in Africa the simple wooden arcus is the type of bow in general use. Consequently, it would be in accordance with what is generally known of the distribution of the bow if the Assyrian bow should turn out to be com-

posite, while the occurrence of the composite bow in ancient Egypt would require some explanation. A considerable number

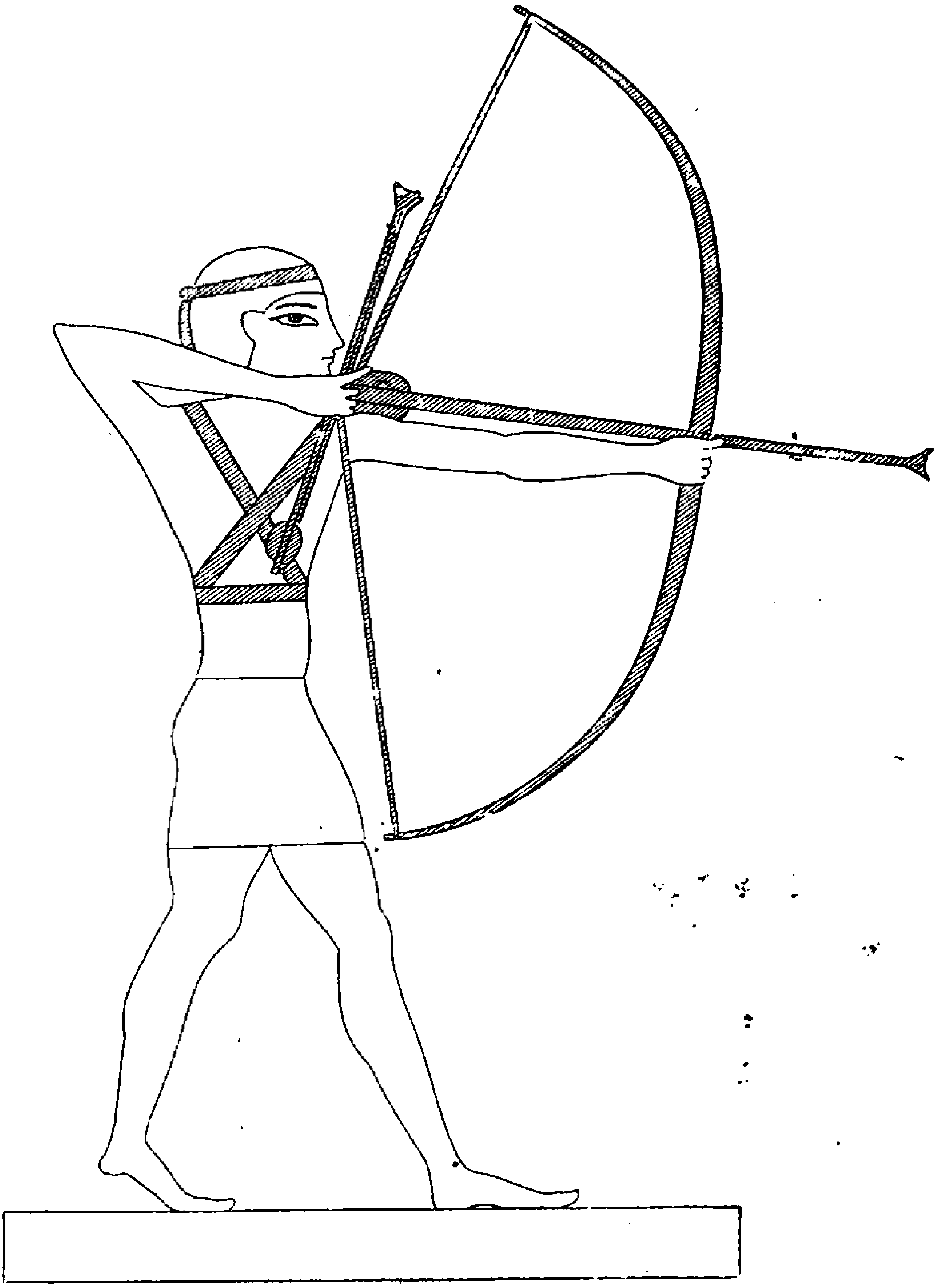


FIG. 53. Egyptian archer about 1600 B.C.
(*From Rosellini's 'Monuments'*)

of bows have been found in the tombs of ancient Egypt which are simple wooden bows of the typical African character. Fig. 53, from Rosellini's 'Monuments,' represents a bow of this

type being drawn. The stiff centre will be noted in comparison with the arch of the Assyrian bow. It dates probably from B.C. 1600, or somewhat earlier. It was therefore with great surprise, in the spring of 1893, that the present writer observed in the Egyptian section of the Royal Museum in Berlin what appeared to be undoubtedly a considerable fragment of a composite bow. The curator of the department had not closely examined this piece, which came from a tomb at Thebes which is said by experts to be of the time of Rameses II. The writer, however, called the attention of Dr. von Luschan, the head of the Berlin Ethnographical Museum, to the bow, and he, recognising its importance, made a careful examination and dissection of it, and subsequently published a *brochure* on the subject.[1] The illustrations (p. 65) of this unique bow are taken from drawings kindly supplied by Dr. von Luschan.

The bow is not perfect, one end being wanting, which has been restored by the dotted lines in the illustrations. The portion preserved measures 1·025 metre in length; the complete bow, as restored, would measure 1·245 metre. It will be seen that a deep groove runs the whole length of the bow, which is enclosed on each side by wood. Dr. von Luschan says that this consists of three strips on each side, though in his drawing there appears to be only one strip on each side in the centre at B, and two strips at A. These are the only portions of the bow which are of wood, the most important part of the bow—probably its back—being a hard, shiny, fibrous tissue of a pale yellow colour, of animal origin. Dr. von Luschan considers that this substance consists of the sinews from some large beast, probably cattle. The groove was in all probability filled with horn, which is known to be very perishable, even in the dry climate of Egypt. In some places traces can be found of a covering of leather and another, outer skin, probably of birch bark. Here we have a true composite bow similar in many respects to the modern Asiatic bow.

[1] Published in the *Proceedings of the Berlin Anthropological Society*, May 1893.

The groove in this bow is on the convex side, while the sinew back is on the concave side, as the bow now exists. The universal practice in building composite bows is to follow the natural shape of the horns which form their basis, the maker adding a stiffening of wood and overlaying the concave side with elastic sinew. When the bow is strung the natural shape of the horns is reversed, so that the outer, or convex, curve becomes the belly, or concave curve, in the weapon when ready for use. It appears that this usage was followed by the unknown bowyers who lived in the days of Rameses the Great. The main difference between this bow and a modern Turkish or Persian bow lies in the fact that in no part of the bow does there appear to be enough wood to render that part rigid. The backbone of the bow from end to end was horn and sinew : if, that is to say, we are right in conjecturing that the missing substance from the groove was horn. There is no stiff section in the centre of the bow, as is now customary, and there are no stiff ears at each end, turning on a natural hinge when the bow is strung. On the contrary, the bow would no doubt bend when drawn in one continuous curve throughout from end to end. Now this is precisely what those bows do in the Assyrian sculptures, which are represented as fully drawn, and precisely what the bow figured in the cut from Rosellini does not do. If, as appears at any rate possible, this bow was an Asiatic bow, one difficulty as regards these sculptures disappears.

The difficulty of the angular form of the bow when strung but not drawn remains to be considered. The structure of the bow of Rameses II. at once makes this easier to understand. The absence of a stiff centre would naturally cause the bow when strung to fall away rapidly from the middle. In the example under consideration the wood stretches from end to end, so that although there would be no straight centre, which we nowadays expect, yet there would not be an actual angle. It is, however, possible that in some cases the strips of wood did not actually join in the centre, in which case, when the pressure of the string was applied this curious angular shape

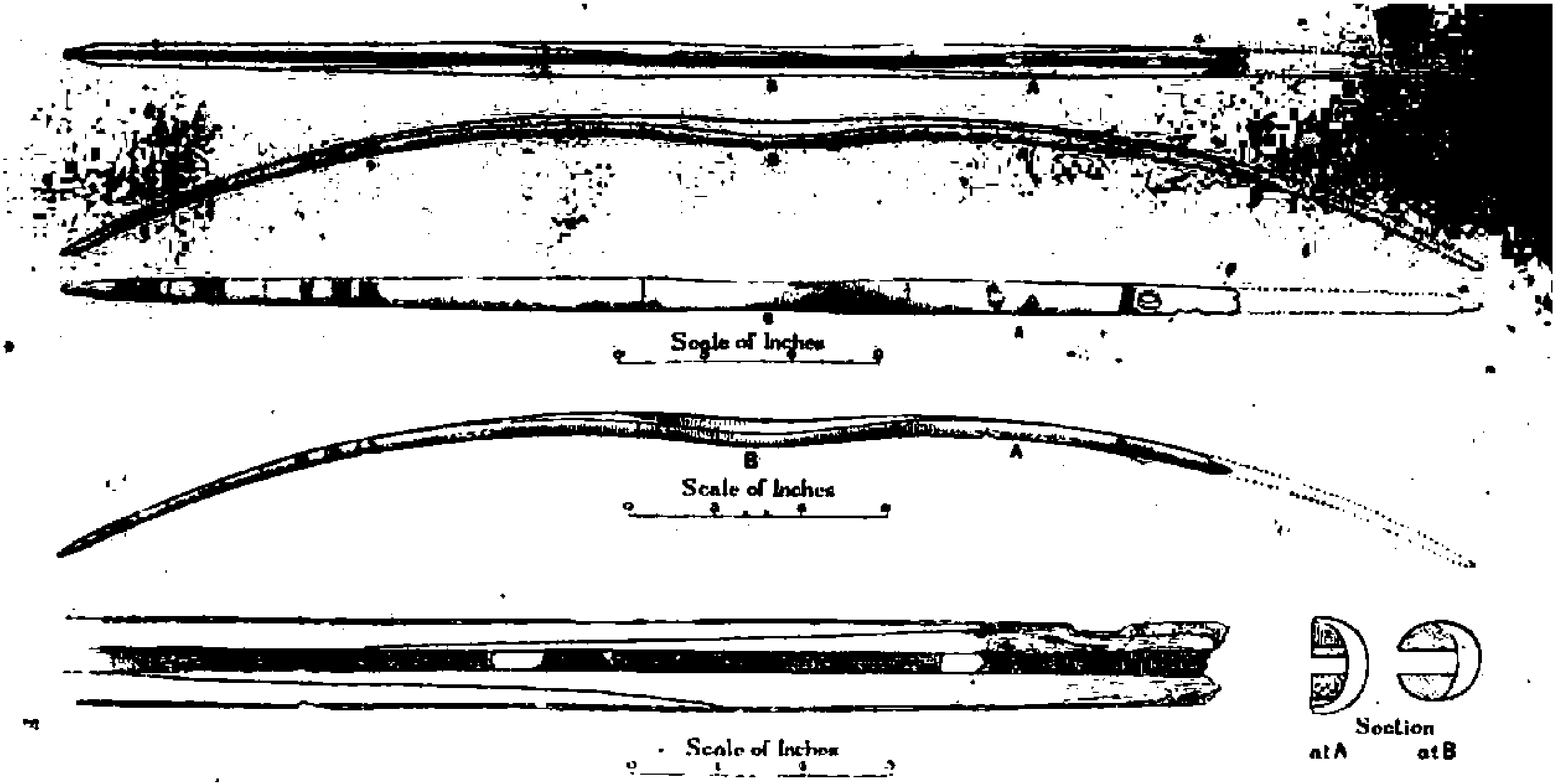


FIG. 54. Composite bow of the time of Rameses II

would necessarily be produced. Should more bows of this character be subsequently discovered, this theory may be confirmed, or it may be upset, but in the meantime it is submitted tentatively as a possible explanation of this very curious weapon.

Dr von Luschan supposes that this was either a bow of one of the Asiatic mercenaries of Egypt, or of one of the captives taken in war. He conjectures that it may possibly be Hittite, and the accompanying figure of a Hittite archer may be compared with it. This figure is taken, by Dr. von Luschan's permission, from a photograph of a Hittite sculpture recently discovered by him, and hitherto unpublished. Rameses II. conquered the Hittites or Khita, so that this conjecture is not improbable; and it is to some extent confirmed by a battle scene between Seti, the father of Rameses II., and the Hittites, engraved in Sir J. Gardner Wilkinson's work on the ancient Egyptians. In this picture the Hittites are armed with a short angular bow very similar to the Assyrian bow. However this may be, the likeness of the bow of Rameses II. to the Assyrian bows and its undoubtedly composite nature seem to leave little room for doubt that the bows of the Assyrian sculptures are also composite.

No doubt the ordinary bow in use among the ancient Egyptians was the single-stave wooden bow, of which several examples have been found in the tombs. These bows do not appear to have been very strong, and possibly they were not war bows, but were used for shooting birds and the smaller quadrupeds. Bows of unmistakably composite form are occasionally represented in the sculptures, and the fact that one composite bow has been discovered in an Egyptian tomb affords fair ground for believing that bows of this character were also in use, and were probably introduced by the Asiatic mercenaries who were employed by Egypt. The Sharu, who are identified by Birch with the Syrians, supplied the Egyptians with bows in the reign of Thothmes III., which seems to show that they were not content with the indigenous African wooden bows.

Fig. 56 represents a hunting scene. It is taken from a

green stone plaque in the British Museum from Tel-el-Amarna, which Dr. Wallis Budge believes to have been sent to Amenophis III. (B.C. 1450) as a gift from one of his Mesopotamian kinsfolk. The bows bear a considerable resemblance to modern Oriental composite bows, far more so, indeed, than the bows of the Assyrian sculptures. Wooden bows are,

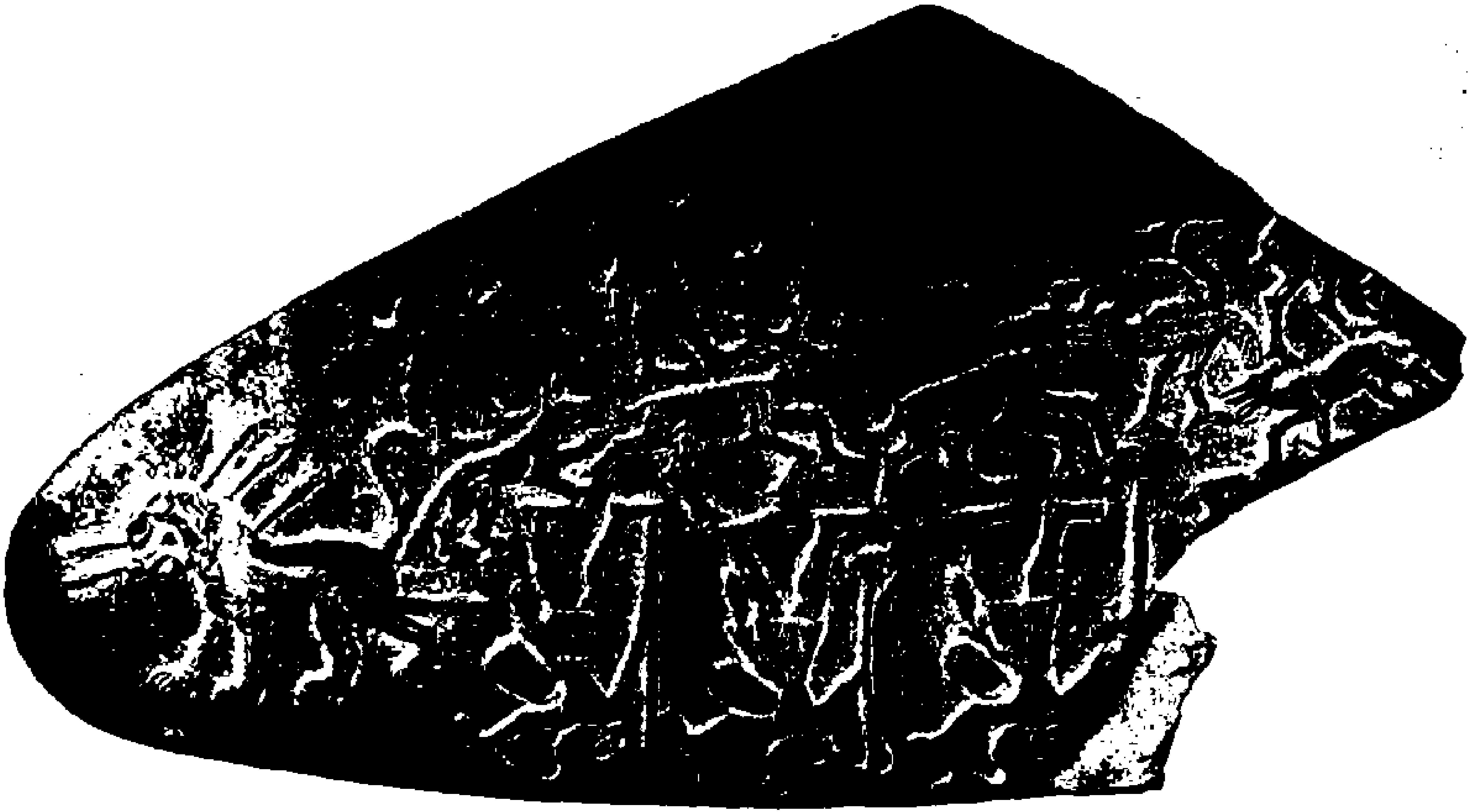
FIG. 55. Hittite archer
(*From a sculpture discovered by Dr. von Luschan*)

however, found in Africa now curiously resembling the form of these bows, one of which is figured in Dr. Ratzel's monograph on African bows. It is possible that this form of composite bow may have been copied in wood by Nilotic tribes, and handed down to the present day. The shape is of course a bad one for wooden bows.

The bow does not seem to have ever been the leading weapon of the Greeks, though it was always used to some extent, and archers seem to have formed part of most Greek armies. A bronze sword inlaid with gold and silver,[1] from Mycenæ, depicts a lion-hunt in which one of the sportsmen is armed with a bow. A fragment of a silver vessel found by Schliemann at the same place is engraved with a representation of the siege of a city, the defenders of which are making a sally, armed with bows and slings. The artistic execution of the figures leaves much to be desired, but one of the bows is distinctly Cupid-shaped, and probably represents a composite bow. It is uncertain, however, whether the attacking or defending party are the Greeks. In any case, the sculpture is the work of a Greek artist of about the fourteenth or fifteenth century B.C.

In Homer the bow is frequently mentioned, though on the side of the Greeks in the Trojan War the great warriors, such as Achilles, Ajax, Agamemnon, and so forth, do not appear to have been archers. Odysseus the wily was, on the other hand, expert with the bow, and possibly he saw the advantage of being able to strike his foe from a distance more clearly than his more dashing comrades. Teucros, however, is said in the 'Iliad' (xiii. 313) to have been the best archer on the side of the Greeks, though in the 'Odyssey' (viii. 220) Odysseus tells the Phæacians that he was the best excepting Philoctetes. He appears, however, to have been in a boasting mood, for he adds that he can throw a spear farther than any other man can shoot an arrow. Pandarus, son of Machaon, appears to have been the chief archer on the Trojan side, though no less a person than Alexandros (Paris) is described as being armed with the 'curved bow'; and possibly the popularity which the weapon enjoyed in the great Asiatic empires extended to Troy. Among the gods, Apollo of the silver bow was pre-eminently the archer. The fact that he was also the god of the lyre was probably something more than a coincidence, the most rudimentary form of harp in Africa being to this day practically a

[1] *New Chapters in Greek History*, by Percy Gardner.



wooden bow with a single string, which indeed is actually used for both purposes by the Damarees; whilst the shape of the Greek lyre suggests that it was made of the horns of animals combined with strings, which were also the component parts of the Greek bow. The epithet ἀργυρότοξος no doubt referred to the outer decoration of the bow, as silver could not enter into the active part of its structure. That the Greek bow was commonly

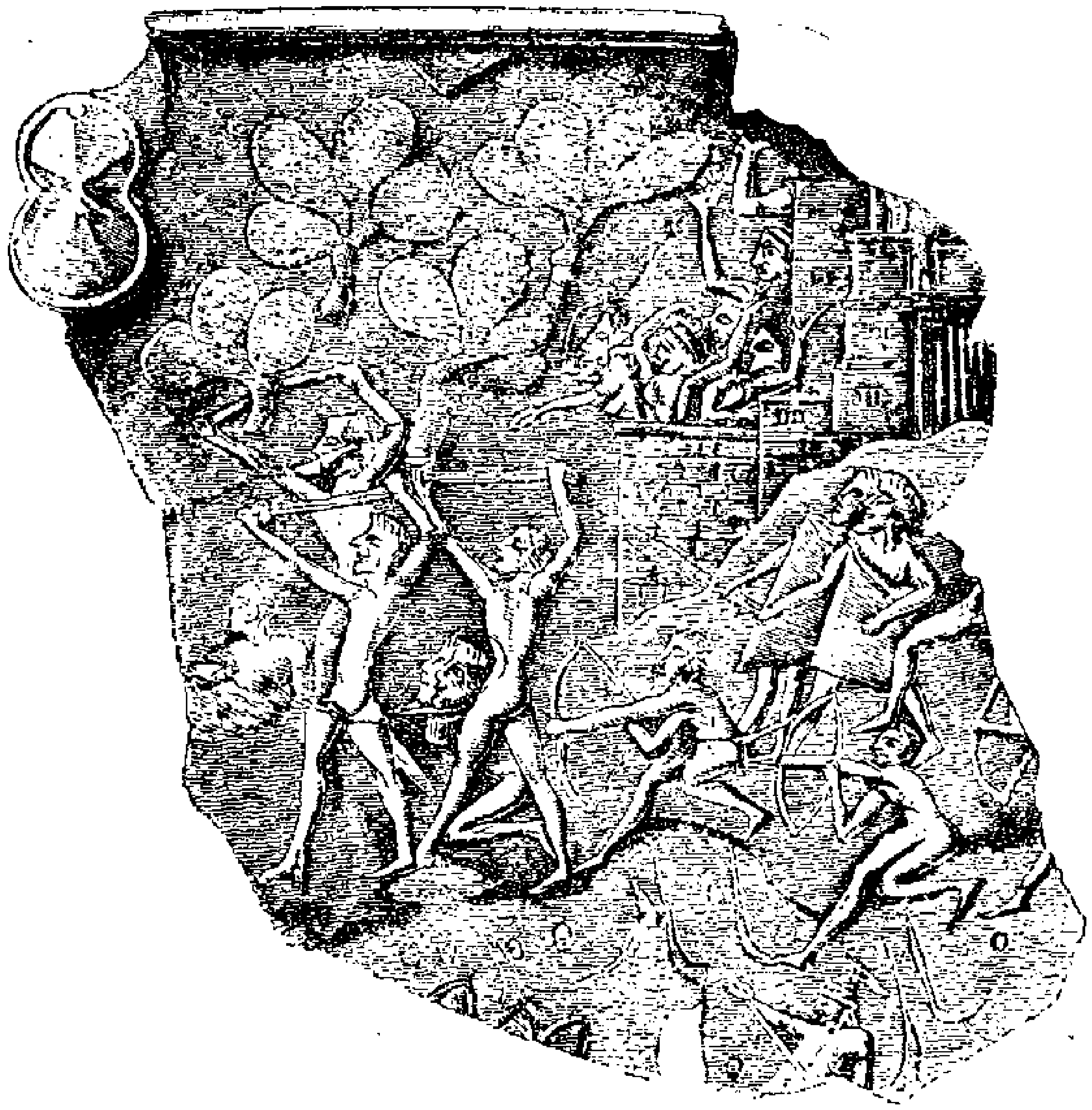


FIG. 57. Mycenæan siege
(*From 'New Chapters in Greek History,' by Percy Gardner*)

a composite, or at any rate a horn one, is evident from the epithet παλίντονος, which is constantly applied to it by Homer. This word signifies the recurving peculiar to the horn bow when unstrung, which is due to the horns regaining their natural shape, and it is best translated by the word reflex, which is the technical term describing a bow which, when unstrung, bends from the centre in the opposite direction to that in which it is drawn.

This epithet is also used by Æschylus of the Scythian bow ('Choephoræ,' 160)—Σκυθικά τ' ἐν χερὶ παλίντονα βέλη ἐπιπάλλων Ἄρης, by Herodotus (vii. 69) of the bows carried by the Arabians, and by other writers. In the fourth book of the 'Iliad' we have a description of the making of the bow of Pandarus. The following rendering of this well-known passage is by Mr. Walter Leaf:—[1]

Forthwith he unsheathed his polished bow of horn of a wild ibex that he himself had erst smitten beneath the breast as it came forth from a rock, the while he awaited in a lurking-place; and had pierced it in the chest, so that it fell backward on the rock. Now from its head sprang there horns of sixteen palms; these the artificer, even the worker in horn, joined cunningly together, and polished them all well, and set the tip of gold thereon. So he laid it down when he had well strung it, by resting it upon the ground.

According to the above description, and taking the palm at four inches, the bow must have been between five and six feet long, which is large for a bow of this kind. It appears to have been a pure horn bow, without any reinforcement of sinew or stiffening of wood. It is, however, possible that Homer was not well acquainted with the bowyer's craft, and that bows of this date were, in fact, composite, as horn alone does not make a very good weapon. The maker is merely said to have smoothed or polished the horn well (πᾶν δ' εὖ λειήνας), no mention being made of its being lacquered or covered with leather or bark.

Pandarus's method of drawing the bow is thus rendered in Mr. Leaf's translation of 'Iliad,' iv. 122-6:—

Then he took the notch and string of oxes' sinew together, and drew, bringing to his breast the string, and to the bow the iron head. So when he had now bent the great bow into a round, the horn twanged, and the string sang aloud, and the keen arrow leapt eager to wing his way amid the throng.

From this it appears that the Greeks drew low, to the breast. The arrow-head was of iron, though bronze piles are also

[1] The '*Iliad*' *of Homer*, translated by W. Leaf, A. Lang, and E. Myers.

mentioned by Homer. The arrow flew with mighty force, for though it struck Menelaus 'where the golden buckles of the belt were clasped and the double breastplate met them,' yet it pierced them both, and passing through the taslet, 'fashioned by the coppersmiths,' beneath, wounded his flesh. The arrow did not, however, pierce far into his body; for Menelaus was cheered when he saw that the threads by which the iron head was attached to the shaft, and the barbs, were outside the wound. Nevertheless, a leech was summoned, who drew out the arrow and sucked the blood from the wound. This latter operation suggests a fear that the arrow was poisoned; though we are not told that this was the case, and poisoned arrows are only mentioned once in Homer. In fact, the Greeks regarded the use of poisoned arrows as discreditable.

There are few more thrilling episodes, even in the 'Odyssey,' than that which follows the return of Odysseus to Ithaca. Penelope his wife, worn out by the importunity of the suitors, takes down the great bow which had been given to Odysseus by Iphitus, the son of Eurytus, and announces that she will forsake her home and marry the man who shall most easily string the mighty bow and shoot through the rings of twelve axes which should be set up for the purpose. Anyone who has tried to string an Eastern bow knows that, even if the bow is weak, owing to its reflexed shape, it is no easy matter, and the bow of Eurytus was not a weak one. Telemachus, Odysseus's son, failed three times, and might have succeeded the fourth, but at a nod from Odysseus he laid it down, and the suitors tried their luck. One after another they attempted the feat, but none could master the weapon. At last Odysseus himself took it, and in a moment, without an effort, he bent it and twanged the bow-string, which rang sweetly like the note of a swallow. Taking up an arrow, he drew the bow from the settle on which he sat, and shot clean through the rings of all the axes. Then follows a fight of one against a crowd, the like of which no living man has seen, but which, though it is written in Greek, every schoolboy delights to read of. The

exact nature of the feat with the axes has somewhat puzzled scholars, but Mr. Lang and Mr. Butcher[1] figure a Greek axe which might well have served for the purpose. To shoot through a series of twelve small rings set up in a line would be a test not only of accurate shooting, but of strength. Indeed, the interest of the feat lies mainly in this latter point. 'The arrow must have been drawn from a point exactly opposite, and on a level with, the line of rings; and if the axes were some three feet long, this would be secured by shooting, as Odysseus did, sitting down. But if the axes were three feet long, the ring would be only some four inches in diameter. Nothing is said as to the distance at which the axes stood from each other. Taking it, however, at one yard only, this would mean that in twelve yards the arrow would only fall four inches by gravitation. This would indicate marvellously strong shooting; but the point of interest seems to be that a test of this somewhat complicated kind, involving a knowledge of the theory of trajectory, should have been thought of in the time of Homer.

From Herodotus's description of the army which Xerxes led against the Greeks we learn that a very large proportion of his troops were armed with bows. So numerous, indeed, were the archers that before Thermopylæ Dieneces—said to have been the bravest of the Spartans—was told that when the Medes began to shoot they would obscure the sun by the multitude of their shafts. To which Dieneces gave his famous answer, 'So much the better for the Greeks, for they would then have to fight in the shade.' Various kinds of bows were to be found in the host of Xerxes. The Persians themselves, the Medes, the Hyrcanians, and many others, had long bows, and arrows made of cane. These were probably composite bows, but bigger than the short horn bow carried by the Scythians, which, when unstrung, was said to be similar in shape to the Black Sea. The Bactrians had bows made of cane pecu-

[1] *The 'Odyssey' of Homer*, translated by S. H. Butcher and A. Lang. Edition of 1890.

liar to their country, and the Indians had bows of cane, and arrows of cane tipped with iron. At no time, probably, was the horn bow universally used throughout Asia, although it was the typical Asiatic weapon. Indeed, a highly finished composite bow would always be an expensive weapon, whereas bamboo bows, though less effective, would be easily come by. The Arians were furnished with Medic, that is, composite, bows, though in other respects they were accoutred like the Bactrians. The Arabians carried long bows which bent backwards (παλίντονα); while the Ethiopians carried 'long bows,[1] not less than four cubits in length, made from branches of the palm-tree, and on them they placed short arrows made of cane, instead of iron-tipped with a stone; which was made sharp, and of that sort on which they engrave seals'—some form of agate probably. The Lycians had bows made of cornel-wood (κρανέϊνα), and cane arrows without feathers. Neither the bows nor the arrows of these gentlemen could, therefore, have been very formidable weapons. It was usual, however, for both Greeks and Asiatics to feather their arrows, the eagle's feather being probably thought most highly of, as Hesiod ('Shield of Hercules,' 134) describes the arrows of Hercules as being 'at the butt covered with the feathers of a dusky eagle.'

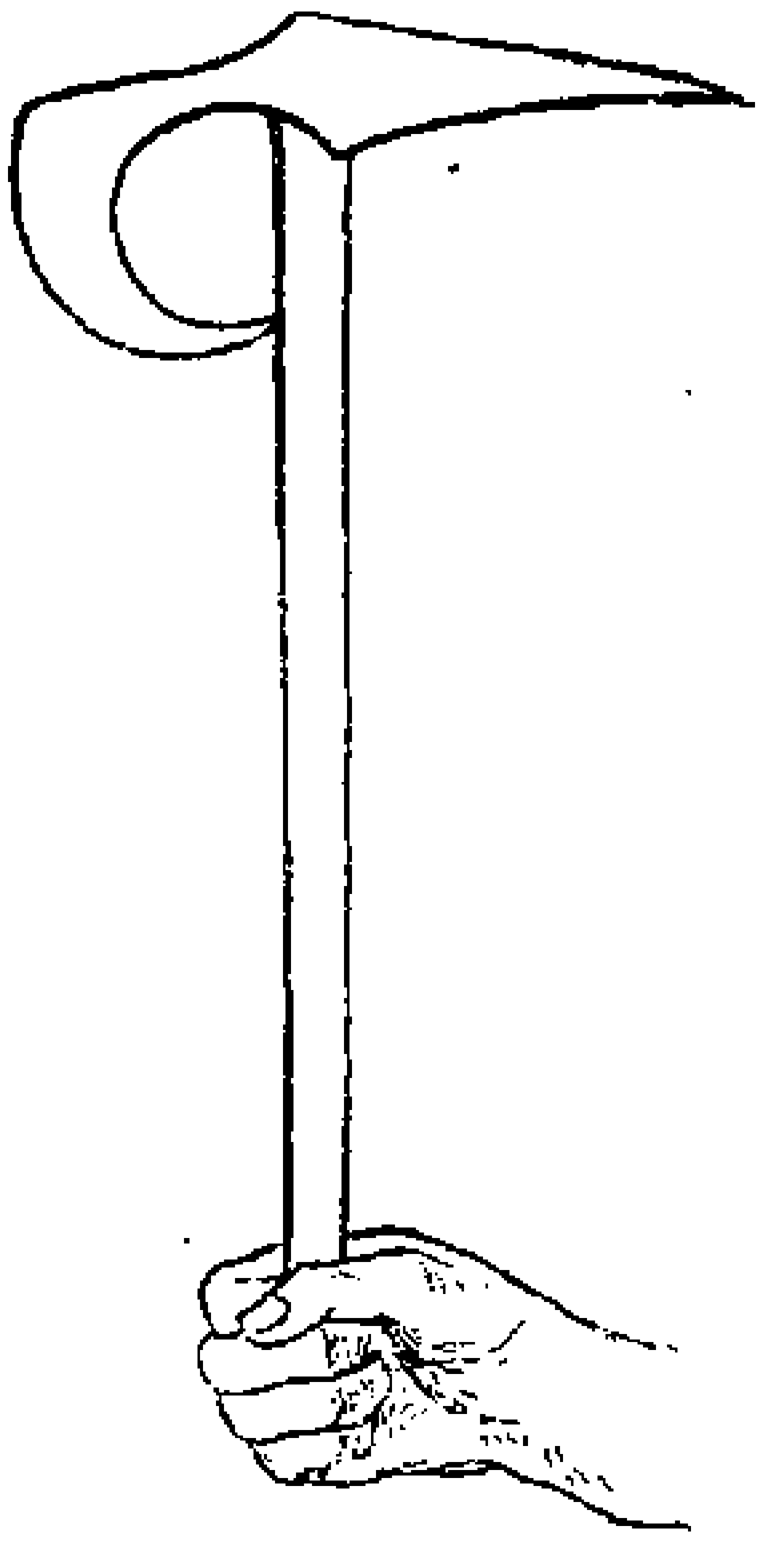


FIG. 58. Greek axe (*From Lang and Butcher's 'Odyssey'*)

Guhl and Koner say that archery was received amongst the gymnastic exercises in only a few Greek States; but Plato, in his treatise on the Laws, recommends that boys after six years of age should 'learn horsemanship and archery, and the hurling of darts and the using of slings, and the females, too, if they consent.'[2] He also calls attention to the fact that the

[1] The Rev. H. Cary's translation is quoted.
[2] Translated by George Burges.

Scythians taught their youth to shoot both right and left-handed. He accounts (Book I. c. ii.) for the superiority of the Cretan archers to those of Thessaly by the fact that Crete is mountainous, and that in such a country light weapons are an advantage, and that bows and arrows on this account were the most suitable weapons.

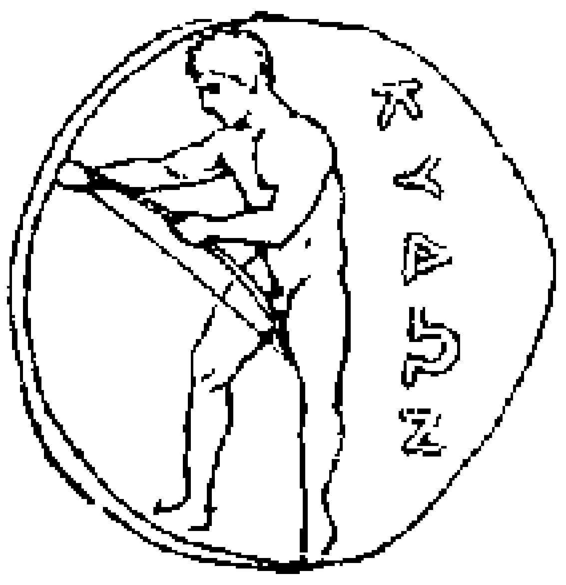


FIG. 59

Crete was undoubtedly the part of Greece in which archery was esteemed most highly, and numerous representations of archers are to be found on the Cretan coins throughout a very long period. In many cases the bow is evidently a simple wooden arcus, apparently not more than four feet in length, though occasionally the composite form is shown. The natural resources of the island would provide ample material for weapons of either character ; but the fact that the simple bow of a distinctly African form is the one most commonly represented would suggest that this was the indigenous type, the true Cydonian bow, and the neighbourhood of Crete to the African continent renders this surmise not improbable. Further, Mr. A. J. Evans has pointed out to me that when the Asiatic bow occurs on Cretan coins it is generally associated with Heracles, while Apollo is always provided with the African form. As Apollo was a native Cretan deity, and Heracles was, so to speak, a foreigner, this fact confirms the theory.

FIG. 60

Fig. 59 is a Cydonian coin representing Apollo stringing his bow. He has grasped it by the centre with his left hand, and is fixing the string with the right. The bow being a short one, the lower end is not resting on the ground, but is

pressed against the left thigh. It is of the simple or African type.

Fig. 60, from a Greek vase now in Paris, gives a capital representation of an archer stringing the composite bow in the manner practised in the East to this day.

The simple form of bow is not confined among the ancient Greeks to the island of Crete, but it may be seen—still associated with Apollo—on Græco-Syrian coins of the time of Antiochus II. and the Seleucid kings. Bows of this shape, but wrapped about the centre with strips of

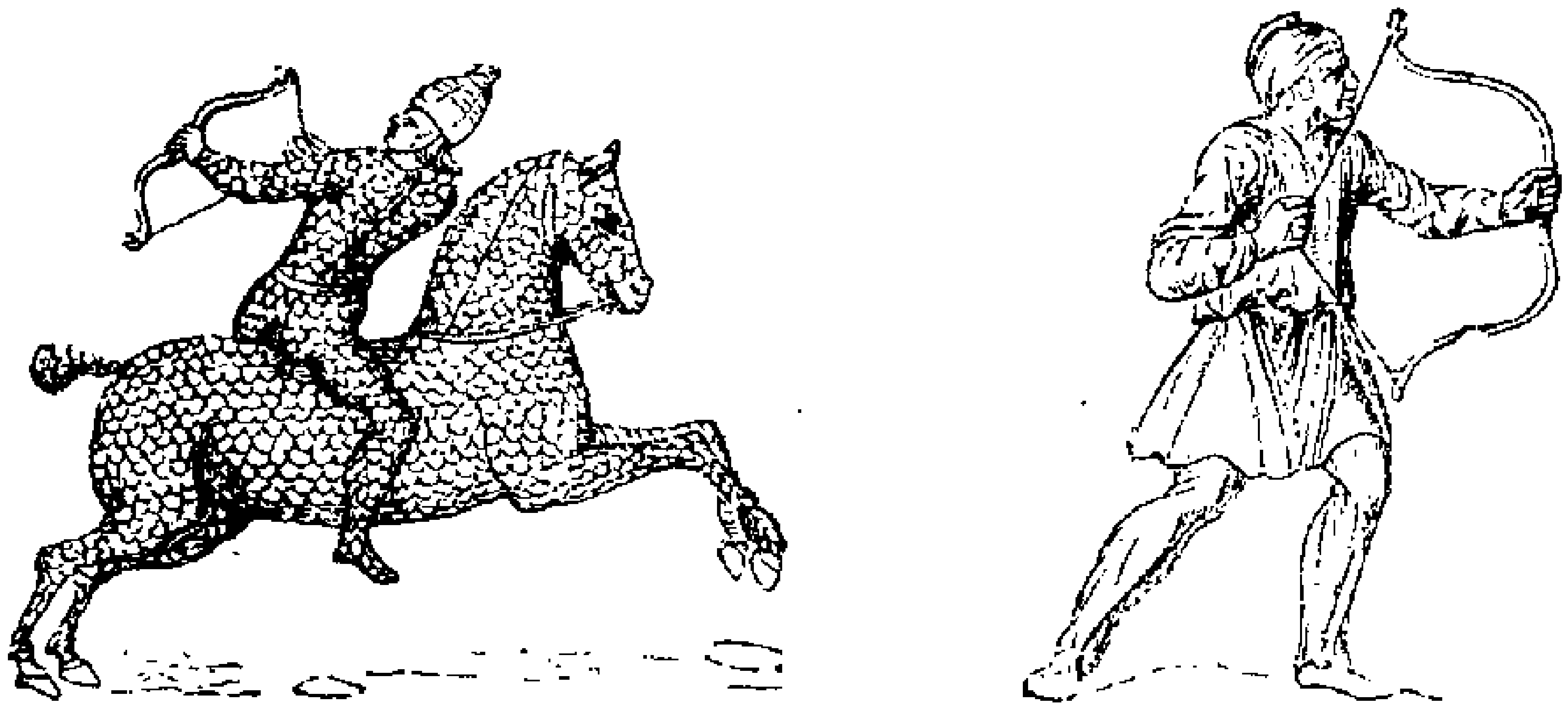


FIG. 61. Auxiliary archers in the Roman army

some material, are figured on Ephesian coins about 300 to 280 B.C.

Among the Romans the bow seems never to have been held in much favour, though after the time of Marius it was introduced by mercenary troops. In the monuments representations of archers occur, but from their costume they can always be distinguished as auxiliary troops—Cretans, Balearic islanders, and so forth. In later times the Emperor Commodus devoted much attention to archery, and marvellous tales are told of the skill which he attained.

CHAPTER V

ON METHODS OF DRAWING AND LOOSING THE ARROW

BY C. J. LONGMAN

As there is one primitive form of bow, so there is one simple and natural method of drawing and loosing the arrow which was undoubtedly the earliest practised, but which has subsequently been modified in various ways. This method is to hold the bow in the left hand about the middle, to lay the arrow on the hand to the left of the bow, and, grasping the butt between the finger and thumb, to draw the bow by pressing it against the string. This method is still used by many tribes to this day, and anyone who has ever given a child its first lessons in archery, or observed a boy shooting who has taught himself, knows that it is invariably the first adopted. In an interesting pamphlet on 'Ancient and Modern Methods of Arrow Release,'[1] Professor E. S. Morse has termed this method the 'primary release.'[2] In discussing methods of drawing the bow occasion will frequently arise to refer to this pamphlet by Professor Morse, as he was the first to investigate this subject. His researches on a seemingly trivial matter have a high ethnographic interest, and his classification is so sound that it must form the basis of any further researches on the subject.

The primary or finger and thumb loose is a good one for

[1] *Essex (U.S.A.) Institute Bulletin*, 1885.

[2] As English archers invariably adopt the word 'loose' to describe the act of quitting the string, that term is used instead of Professor Morse's 'release.'

a weak bow, as the arrow is easily loosed by the simple process of opening the finger and thumb; but unless the archer is possessed of extraordinary strength in his fingers he cannot shoot with any force by this method. In drawing a strong

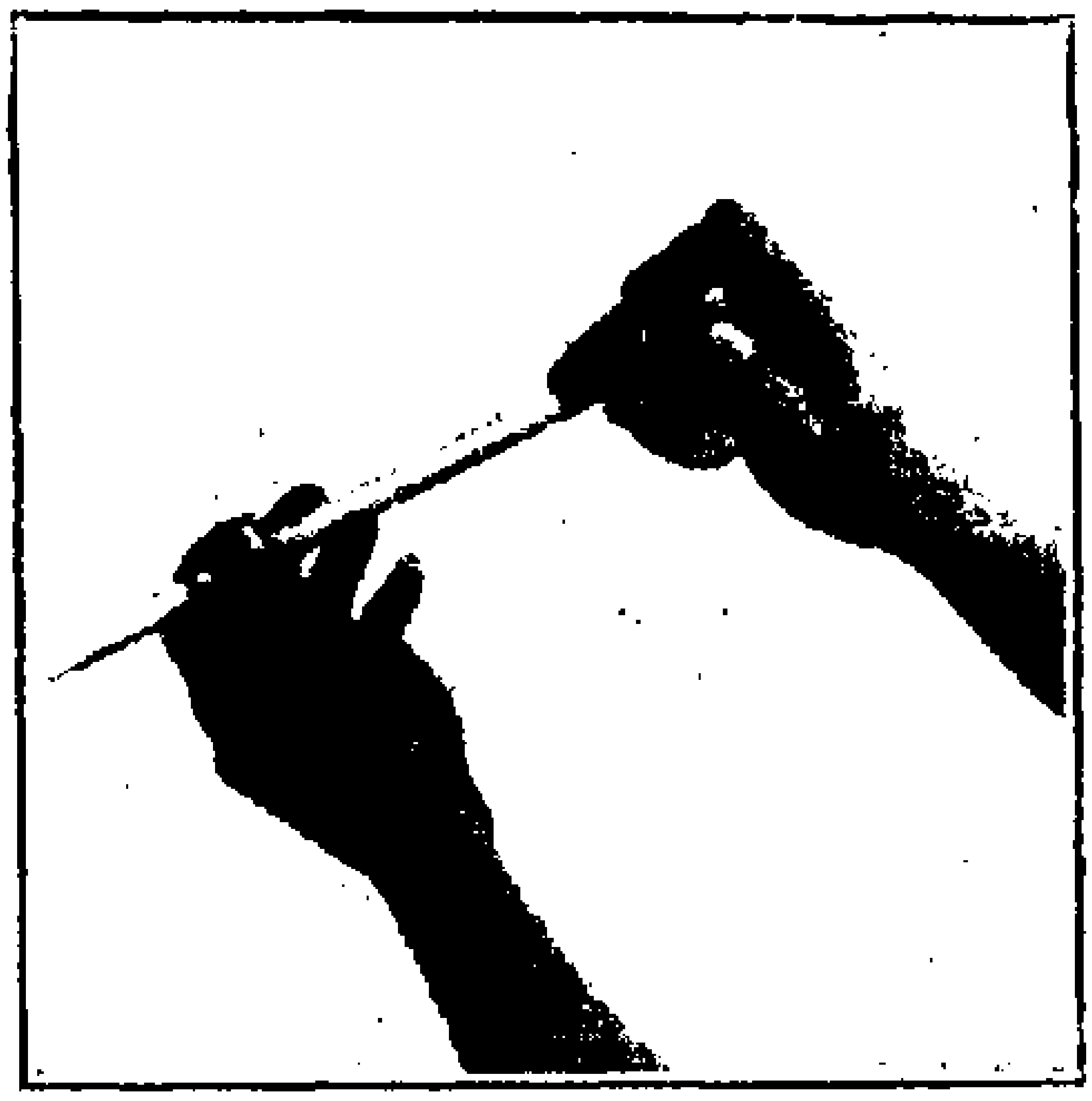


FIG. 62. Andaman islander scraping an arrow

FIG. 63. Andaman islander making a nock

(*From photographs by Mr. Portman*)

bow the arrow would necessarily slip from his grasp before he had drawn it fully out. To obviate this some tribes—the Andaman Islanders for example—scrape the butt of the arrow where it is held with a shell so as to roughen it and give a better grasp. The above figure from a photograph by Mr. Portman shows this operation. Other tribes give a bulbous form to the butt end of the arrow for the same purpose. Mr. Morse's figure of an arrow from Oregon shows this, and the practice is common in various parts of the world. The Assyrian sculptures in the British Museum show arrows of this form. Whenever arrows of this type are met with, it may be inferred that the primary loose is in use. A certain indication that the

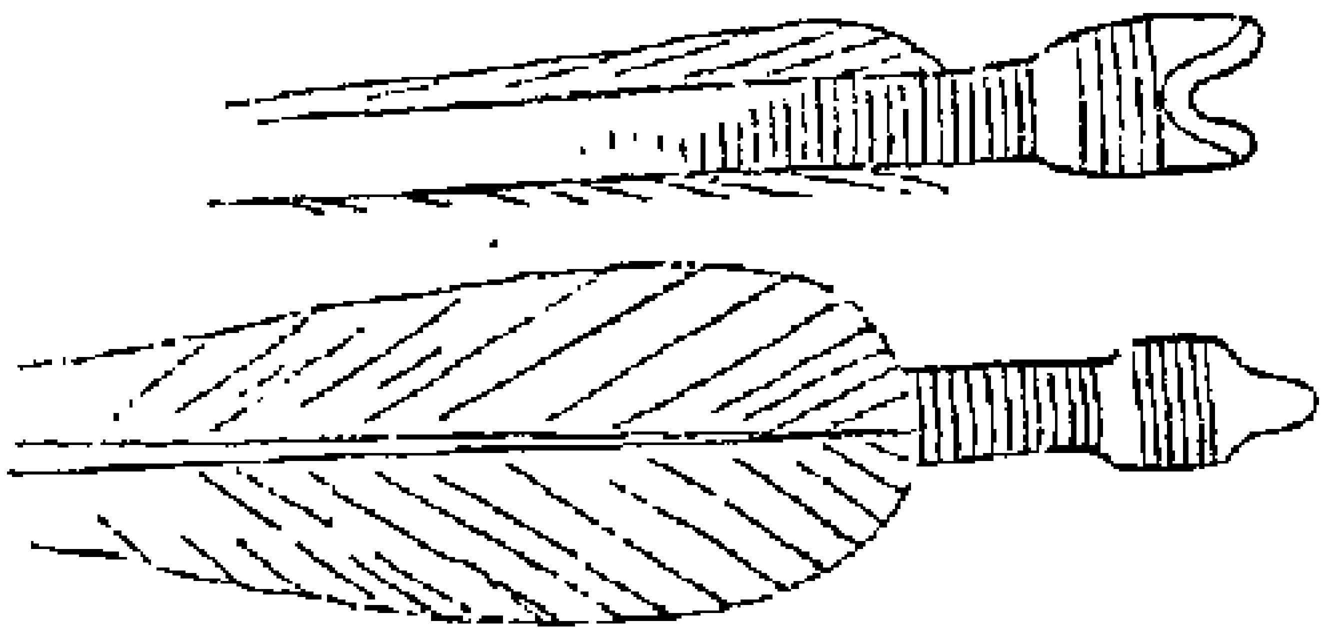
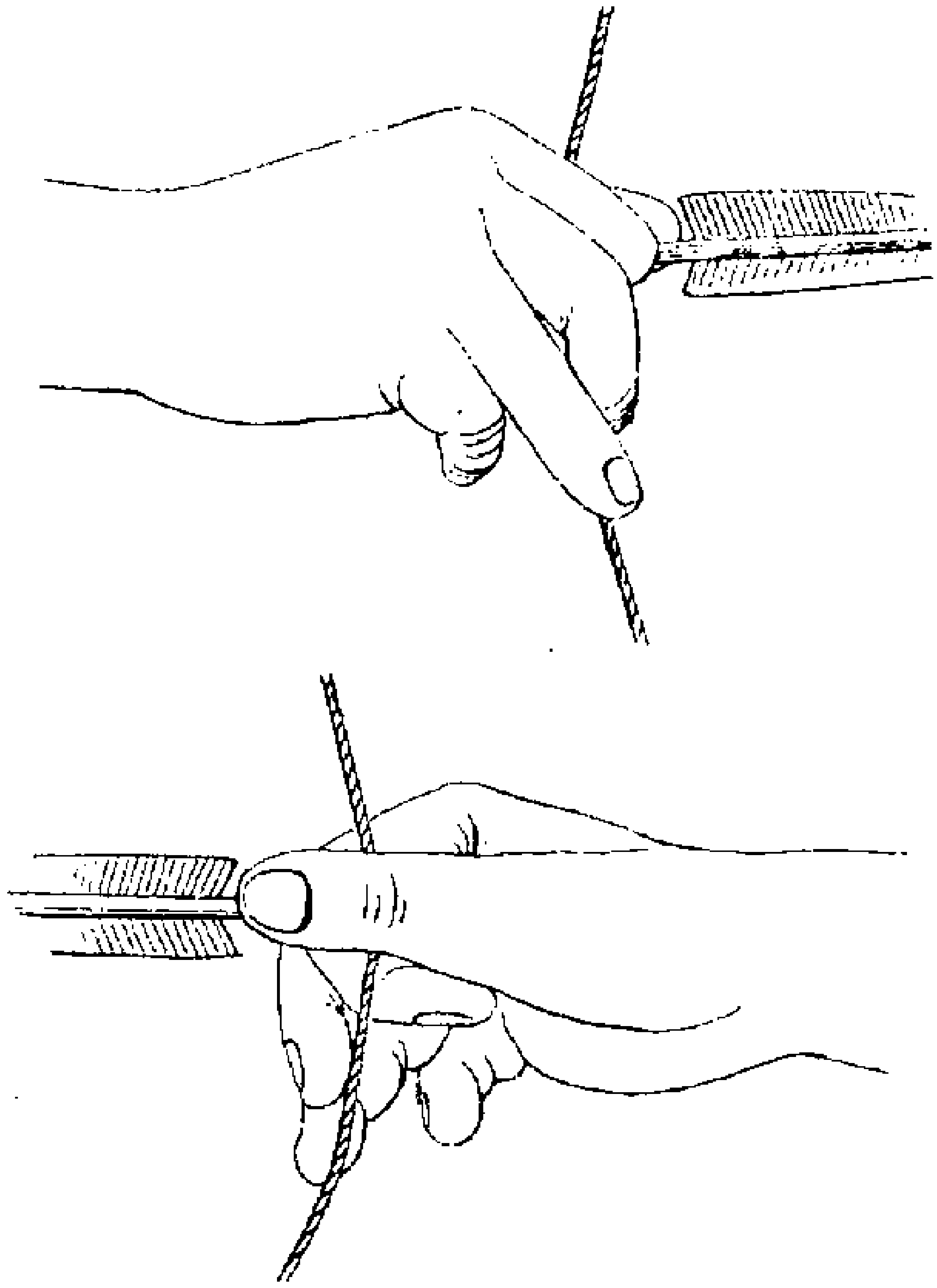
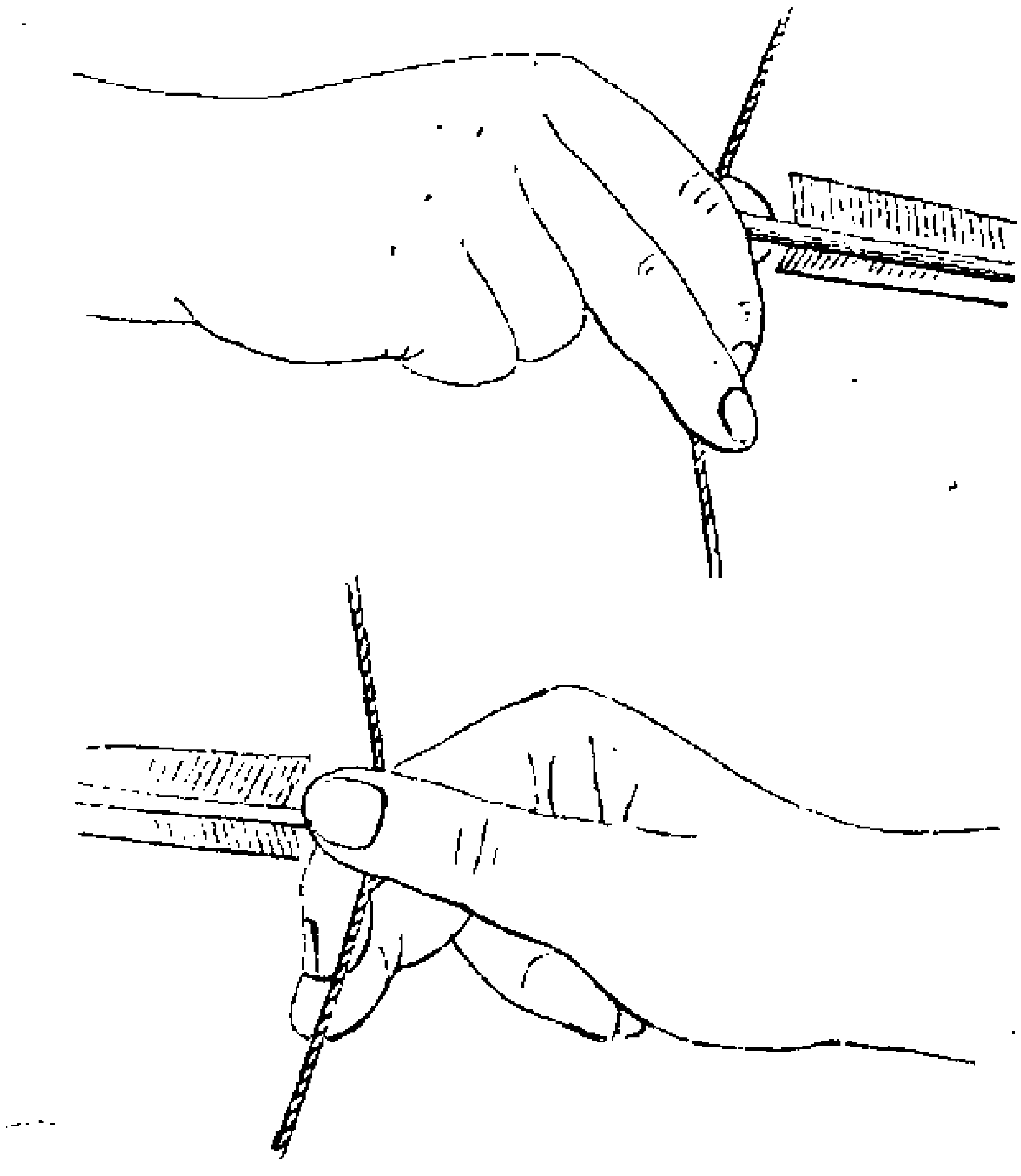


FIG. 64. Knobbed arrow from Oregon (*Morse*)



FIGS. 65, 66. Secondary loose (*Morse*)



FIGS. 67, 68. Tertiary loose (*Morse*)

primary loose or some modification of it is in use is the absence of a nock in the butt of an arrow ; this is common in New Guinea, the Solomon Islands, and other places. Where there is no nock it is evident that if the fingers were to hold the string the arrow would part company with it. An arrow without a nock must necessarily be held by the finger and thumb against the string, which is forced back by the arrow itself.

The modifications of the primary loose alluded to above are termed by Mr. Morse secondary and tertiary. By these methods the arrow is still held by the finger and thumb against the string, but the tips of the fingers assist in drawing the bow. It seems doubtful, however, whether there is a sufficient distinction between the secondary and tertiary looses to justify their

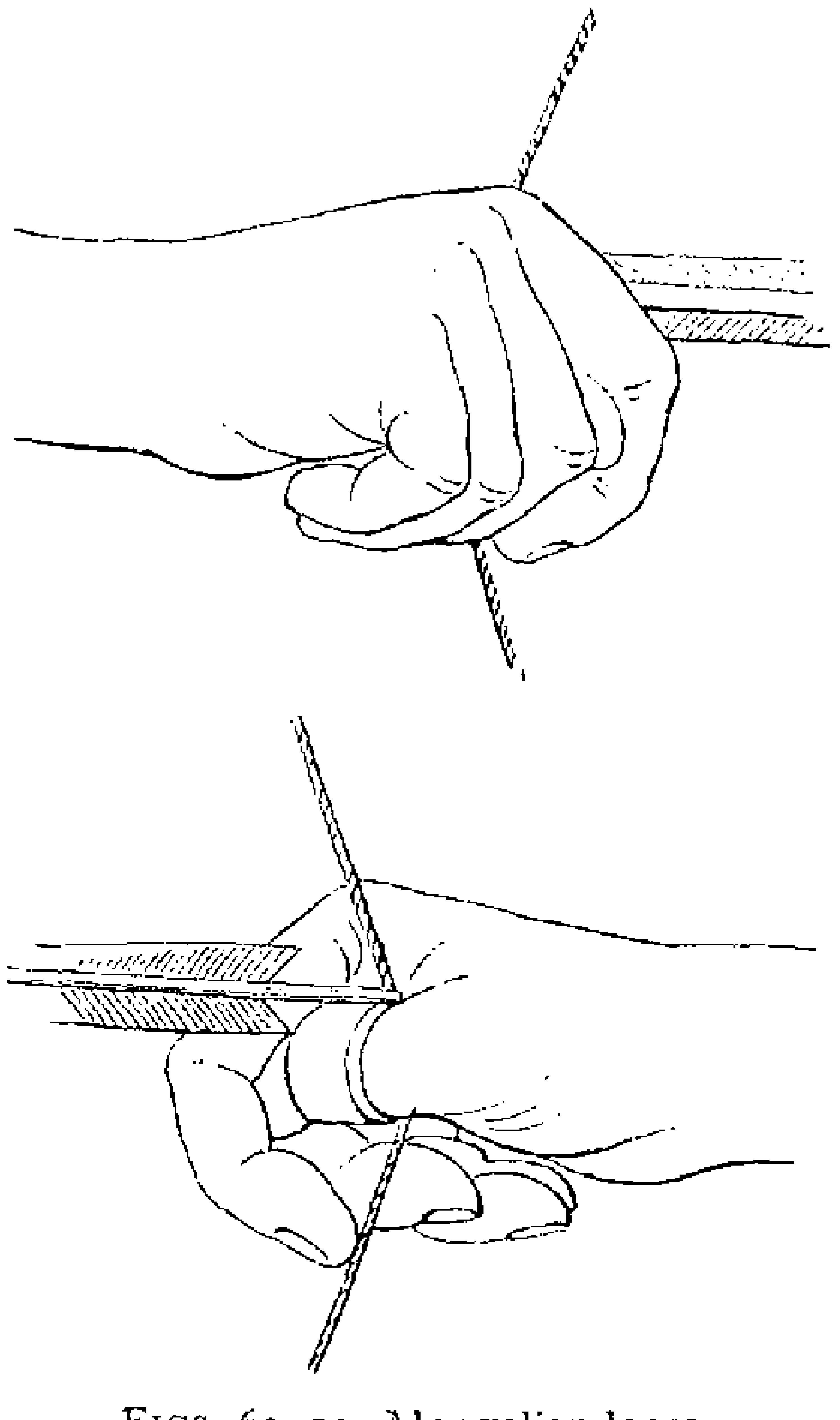
separation, and all finger and thumb looses where the tips of the fingers assist in drawing the string will be classed here as secondary.

The next loose in the natural order of development is where not only are the tips of the second and third fingers used to draw the string, but the tip of the first finger is also, the grasp between the finger and thumb being discontinued. This loose, which Professor Morse terms 'Mediterranean,' is, in fact, the one universally practised in this country, and need not be figured here. Sometimes two fingers only are used, but very few, if any, successful shots have adopted this plan. The loose from two fingers is undoubtedly very clean, but that advantage can only be gained by using a weaker bow than could be drawn with three fingers, and also by incurring the risk of straining the tendons of the fingers. This is an accident which occurs not unfrequently, even to those who use the three-finger loose, the strain on the fingers being very severe. Archers are, therefore, strongly advised not to adopt the loose from two fingers. Some even go so far as to draw with all four fingers, amongst them being Mr. C. E. Nesham, who is one of the most successful shots of recent years. It is probable, however, that other archers who imitated Mr. Nesham in this particular might not prove so successful as he has done, and the three-fingered loose is the one which aspiring archers will do well to adopt. In this loose (as, indeed, in the secondary also) a right-handed man places the arrow on the left side of the bow, and a left-handed man on the right. The part of the hand between the first knuckle of the forefinger and the junction of the thumb with the hand makes a good resting-place for the arrow.

There remains one other principal form of loose, which is almost, if not quite, as efficient as the Mediterranean. Professor Morse has named it Mongolian, because it is universally used by tribes of Mongolian origin, though it is not confined to them. In this loose the string is drawn by means of the first joint of the thumb, the fingers being arranged in different

manners in various modifications of the loose, the first and second finger giving some little assistance to the thumb.

Professor Morse considers that this loose is not in any way derived from those hitherto dealt with, but is entirely independent in origin. It is a little curious that this loose is generally associated with the use of the composite bow, though not invariably. It is, however, a somewhat complicated method, and it seems improbable that it was an original conception. Just as the composite bow probably was developed from man's desire to improve the plain bow, so it seems likely that the Mongolian loose was naturally developed from the primary.



FIGS. 69, 70. Mongolian loose (*Morse*)

When man began to make bows too strong to be drawn by the primary method, he could improve his method of drawing in two directions, either of which implied the previous invention of the nock at the butt end of the arrow. He could either employ his fingers to assist in drawing the string, discarding the thumb, and so work up to the Mediterranean form, or he could discard the forefinger—the weaker of the pair originally employed—and use his thumb. This method requires the arrow to be placed to the right of the bow (for a right-handed man), which, again, suggests the point of departure being the primary loose, as in

that method only can the arrow be used indifferently on either side of the bow.

In the Mediterranean loose a glove is commonly used on the drawing hand, which has been reduced by modern archers to the minimum in the form of little leather tips for the first

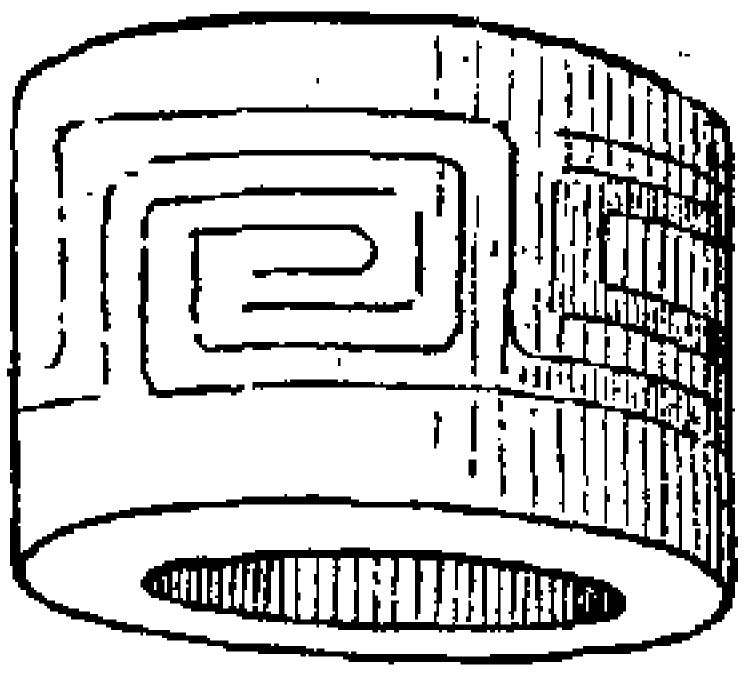


FIG. 71. Chinese drawing ring
(*Morse*)

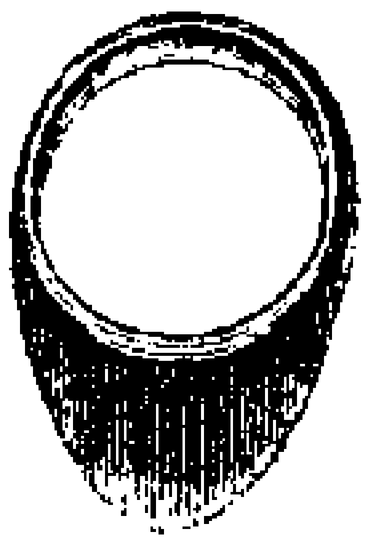


FIG. 72. Drawing ring from Asia Minor
(*Berlin Museum*)

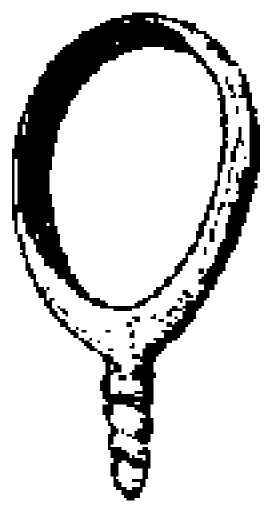


FIG. 73. Drawing ring from a Nilotic tribe
(*Berlin Museum*)

joint of the three drawing fingers. In the Mongolian form a ring is used on the thumb, the string being caught by the edge of the ring in most cases.

These rings are of various materials, such as horn, metal, jade, and so forth. Some are set with jewels, and are of great

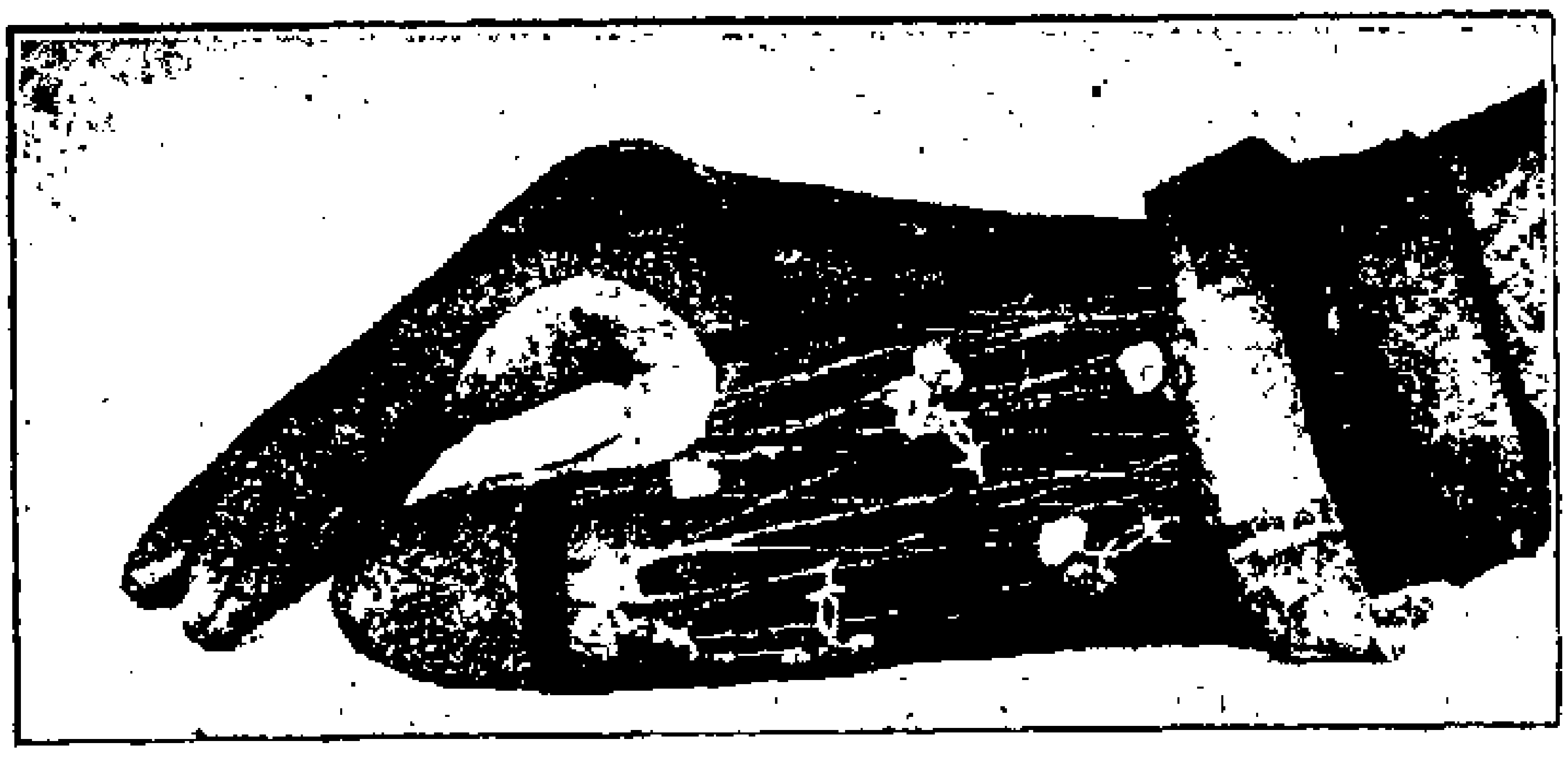


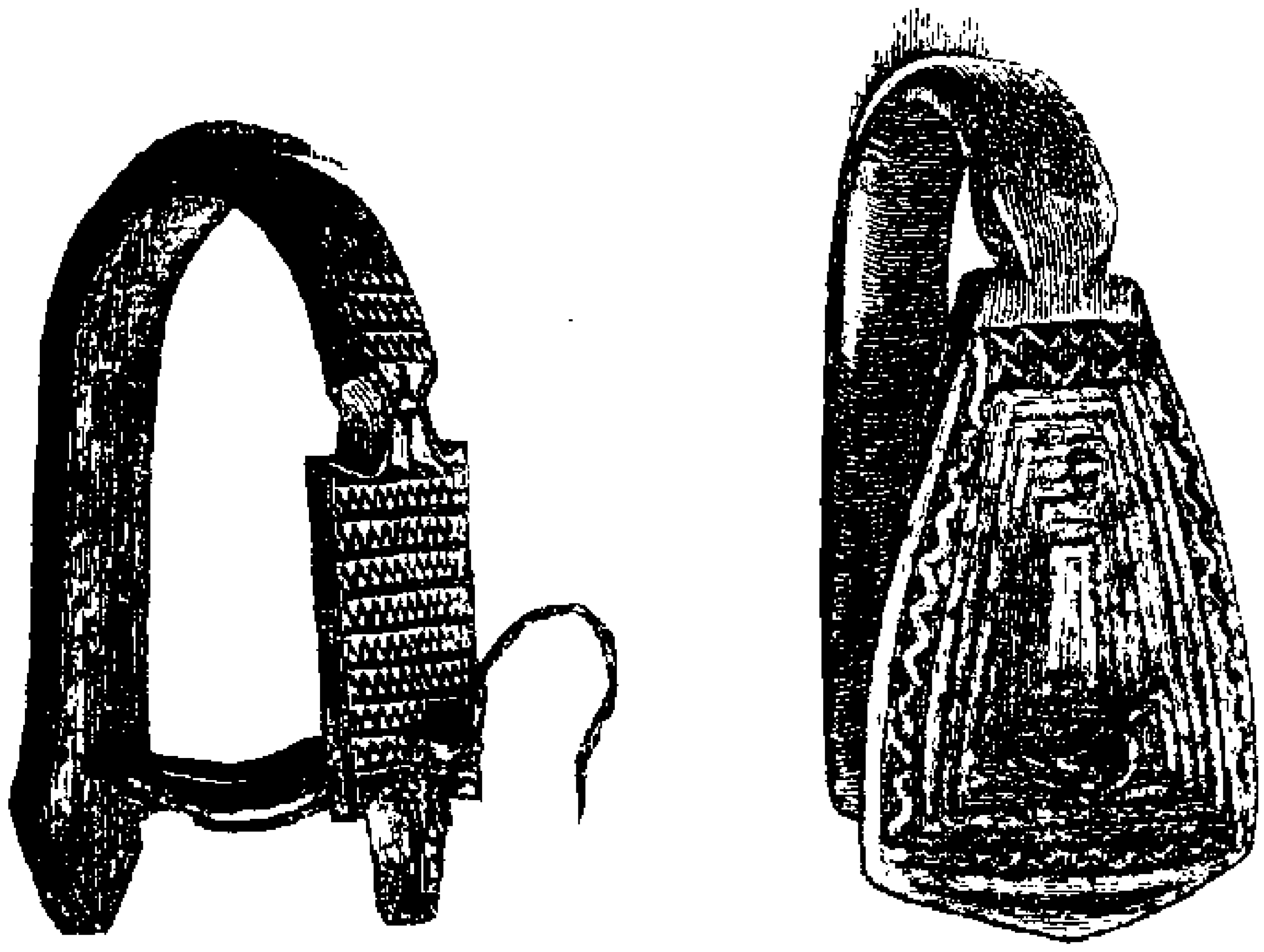
FIG. 74. Japanese shooting glove
(*Coll. C. J. Longman*)

value. The Japanese, who must always do things in a different way from their neighbours, have concocted a glove with a monstrous thumb—like the thumb of a boxing glove, but harder—and stalls for the first two fingers.

The Assyrians appear to have practised various forms of loose, notably the primary, the secondary, and the Mediterranean, both with two fingers and with three. In the earlier sculptures the primary form is perhaps the commonest, though the Mediterranean form is frequently shown. Professor Morse has noted the curious fact that the archers shooting to the right as one faces the picture mostly use the primary loose, and those shooting to the left use the Mediterranean ; that is to say, when the back of the drawing hand is shown the loose is generally primary, and when the palm is towards the looker-on it is as commonly Mediterranean. This rule is not invariable, however, and probably no sound deduction can be drawn from the sculptures on this point, except that both forms were in use ; and the same holds good in Egyptian and Greek works of art. In none of these three nations does the Mongolian, or thumb-loose, appear to have been generally practised, which is somewhat curious, as this loose is ordinarily associated at the present time with the use of the composite bow. The ancient Persians, on the other hand, do appear to have used the thumb-loose. The fact that the weak primary loose was not uncommon casts a certain doubt on the power of the Assyrian archers, though it is probable that if it was much practised the holding power of the finger and thumb would be much greater than it is among modern archers, who have abandoned this method altogether. It could not, however, have been so strong as the three-fingered Mediterranean system.

In modern times, and in the middle ages, the Mediterranean loose has been the typical European loose. It is also the loose of the Eskimo. This fact may be worth the attention of ethnographers, as it is not a little curious that this people should use a European loose while their bow is similar in form and structure to that used by Asiatic tribes which use a totally different loose. The North American Indians use the primary and secondary forms. In Asia, including Turkey, the Mongolian loose is mainly practised, except in India, where the Mediterranean form is used—at any rate, to some extent. In

Africa various looses are used, even the Mongolian in some tribes. Figs. 75 and 76 are very curious drawing rings from the Wutah in Central Africa. This ring is employed in a very curious loose, as it is passed over the hand, and the circular part grasped in the palm, the string being pulled back by the edge of the ring. Fig. 77 represents a still more curious ring, also in the Berlin Museum, which Herr von Luschan tells me is used in much the same way as the Wutah ring, in a great part of the interior of West Africa, between Togo and the Cameroons. It is a drawing ring and dagger combined. Professor Morse puts down the Andaman Islanders as practising the tertiary (classed here as secondary) loose. It appears,

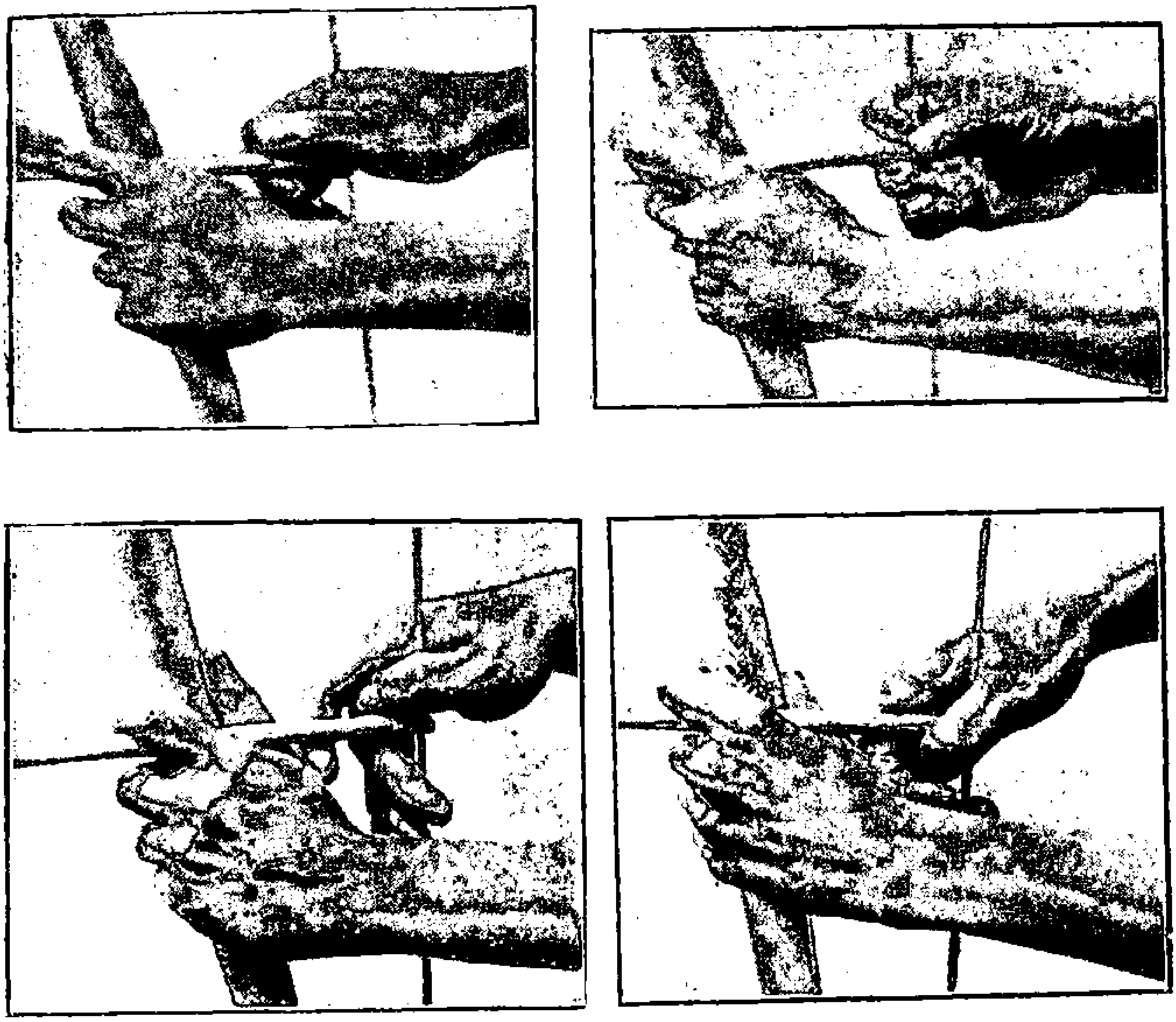


FIGS. 75 and 76. Wutah drawing rings
(*Berlin Museum*)

FIG. 77. Drawing ring and dagger, West Africa
(*Berlin Museum*)

however, from Mr. Portman's researches that they practise a variety of the Mongolian and of the Mediterranean as well. Figs. 78 to 81 are from photographs taken by Mr. Portman of natives in the act of shooting. Professor Morse mentions some other eccentric looses, for which the student may be referred to his monograph.

A totally different method of drawing the bow appears to have been occasionally practised from ancient times to the present day. It has never been much used, and though it enables a man to draw a very strong bow, it is clumsy and ineffective. The archer sits down, and placing one or both of his feet against the centre of the belly of the bow, pulls



FIGS. 78–81. Andaman looses
(*From photographs by Mr. Portman*)

back the string with both hands. Unless he lashes the bow on to his feet, or has remarkably prehensile toes, the bow must spring forward when it is loosed, much of the additional power gained must be lost, and the direction and elevation of the arrows rendered quite uncertain. By this method a man, in fact, makes himself into a crossbow, his body and legs representing the stock on which the bow is fixed. It

seems possible that this system of drawing the long-bow, which is undoubtedly very ancient, may have suggested the crossbow.

Sir Emerson Tennant[1] says that the Veddahs of Ceylon shoot in this style when they want to discharge their arrow with great force, and the practice is still known among that curious people. Certainly, anyone who practised this method of drawing the long-bow would soon find the need for a stock on which to fasten the bow, to prevent it springing away when loosed. This subject is outside the scope of the present work, but Mr. Balfour's map, at the end of the volume, of the distribution of the crossbow in ancient and modern times may be studied with advantage, as supplementary to his map on the distribution of the bow.

The distribution is somewhat curious. The weapon is found over a far more restricted area than the ordinary bow, and crops up in parts which are so widely separated as Greenland, Western Europe, Western Africa, China, and Indo-China.

Another system occasionally used is to rest the lower end of the bow on the ground, and grasp it between the big and second toes of the left foot. This method is sometimes used by the Solomon Islanders.

[1] *Ceylon*, vol. i. p. 500. Sir E. Tennant gives here several references showing that the practice of drawing the bow with the foot prevailed in ancient and modern times, especially in India, and also in modern times in South America.

CHAPTER VI

SAVAGE ARCHERY

By C. J. Longman

It is a common belief among those who know no better that all savage races who use the bow and arrow possess an extraordinary degree of skill. The feats which have been credited to the American Indians, and many other races, would be marvellous if performed by men armed with the finest modern small-bore rifles and aided by range-finders, telescopes, and wind-gauges. It may therefore be useful to collect a few authentic instances of actual performances, which will give a reasonable idea of what the bow is capable of in the hands of uncivilised and semi-civilised races. Its powers at the present day, in the hands of English archers, will be dealt with in another chapter.

Few races depended more upon the bow, and were more familiar with its use, than the North American Indians in the days before firearms became plentiful; and on the manners and customs of these tribes we have no better authority than Mr. G. Catlin. He spent eight years in travelling among them, from 1832 to 1839, and succeeded not only in preserving amicable relations with them, but also in gaining a remarkable degree of intimacy with many of their chiefs at a time when the tribes were far more powerful than they now are, and were to a great extent uncorrupted by contact with civilisation. Mr. Catlin was a man of acute observation and a skilful artist; so that his notes, both with pen and pencil, have great value as

contemporary records of the archery of the Indians at a time when they had hardly any guns, and depended on their bows, not only in war, but also for killing the wild animals—especially the buffaloes—on which they subsisted.

Mr. Catlin's evidence does not show that the Indians were able to shoot any remarkable distance, or that they possessed any extraordinary accuracy of aim. It is not probable that the finest shot among the Blackfeet would win the championship of Great Britain if he were to enter for the Grand National, with his stiff but rudely made tackle, against English archers, whose bows would be made from staves of the best Spanish yew, whose arrows would be absolutely true, and whose practice had been devoted solely to the object of pounding arrow after arrow with monotonous accuracy into the middle of a patient and unresisting target at fixed distances. But change the position, and let our champion approach a herd of a thousand buffaloes (alas! that such a herd no longer exists) with a fifty-pound self-yew bow, and blunt arrows which would 'spin' with perfect smoothness and 'balance' at the same spot to a hair's breadth, but would only weigh four shillings and sixpence or five shillings in silver, and it is not likely that he would maintain his superiority. To tell the truth, no effective comparison is possible between the highly specialised practice of modern English archery and either the war archery of our forefathers or the wild archery of savage tribes. It is one thing to kill and disable as many as possible of a body of disciplined and armed men: it is another thing to creep up to within fifteen or twenty yards of a wapiti and silently plant an arrow in the neighbourhood of his heart, or to shoot down a charging and infuriated buffalo; while to put as many arrows as possible within a given circle at a distance well known and long practised is a feat of a character quite different from either of the others.

Nerve, strength, and skill are necessary to perform any of these feats; but these qualities must be differently applied, and the weapons used must be essentially different.

So important was it to the Red Indians to be able to handle their bows well that the lads were early instructed in the art. It was Catlin's *good-fortune* to witness one of the mimic field-days held for the instruction of the boys of the Mandans[1] on the Upper Missouri. One morning, early in summer, some hundreds of boys were marched out with bows and harmless light arrows. They were naked but for small tufts of grass on their heads, the use of which we shall presently see. They were divided into two sides, and put through all the manœuvres of Indian warfare. Volleys of arrows were discharged by the one party at the other, and they were instructed in the art of dodging and fending them off. The Mandans seem to have anticipated the spirit of our own 'Manœuvres,' for, if any boy was hit in a vital part, he was expected to tumble down and sham dead. Then came the moment of triumph for his adversary, who dashed at him, and with a wooden knife removed his artificial scalp of grass. At other times the young men would practise the 'game of the arrow,' which consisted in shooting up into the air, the winner being he who could shoot the greatest number of arrows before the first touched the ground. Catlin reports that they were so quick that no fewer than eight arrows were sometimes sent up before the first fell ; but he does not state that he actually saw this feat accomplished. It will be remembered that Longfellow credited Hiawatha with the power to beat even this record.

> Strong of arm was Hiawatha :
> He could shoot the arrows upward,
> Shoot them with such strength and swiftness
> That the tenth had left the bowstring
> Ere the first to earth had fallen.

Hiawatha's feat, it must be admitted, is one which no ordinary mortal can hope to achieve, and, speaking from my own experience, I find eight arrows in the air simultaneously far more than I can manage. With a strong bow I can keep an

[1] Vol. i. p. 131, reprint of 1892.

arrow in the air about eight or nine seconds, and anyone who can nock, draw up, and loose arrows at the rate of one per second must be very nimble. No doubt the fact that many Indians—for example, the Shoshones—used arrows without nocks would give them an advantage in rapidity over an English archer, who has to carefully fit his nock on to the string ; but, however this may be, I find that it is all I can do to get the third off by the time the first falls. It is, however, probable that with practice a better result might be attained. No doubt the power of discharging arrows in rapid succession would be a very valuable one, both in war and in hunting ; and we find Sir John Smythe, in 1590,[1] makes this point in arguing in favour of the bow as against guns. 'Archers are able,' he says, 'to discharge four or five arrows apeece before the Harquebuziers shall be readie to discharge one bullet ; I meane the Harquebuziers beginning to charge when the archers doo begin to take their arrows to shoote.'

The real business of the Red Indian archer was to kill the bison, or, as it is more commonly called, the buffalo. This animal provided him with food, clothing, and weapons—almost everything he wanted. With the bow and the spear he killed them in vast numbers, and Catlin's pictures, four of which are here reproduced, represent scenes, of which he was an eye-witness, which will never recur. The buffalo no longer roams the prairies ; but for a few specimens confined by man, it is said that he is extinct. The Indians, largely reduced in numbers by the small-pox and the whisky introduced by the white men, themselves only exist in a sort of semi-confinement within their own reserves ; and the bow is being rapidly superseded, even in the most remote part of the earth, by firearms.

Catlin's pictures tell plainly enough what are the qualities which the Indian archer required to overcome the buffalo. He needed no great skill, no knowledge of trajectory or calculation of wind-pressure to hit his mark. It was big enough, and he rode up close alongside before he discharged his arrow. He

[1] *Certaine Discourses.* London, 1590.

required a short, handy bow, easy to manage on horseback, and stiff, heavy arrows with sharp heads to penetrate the buffalo's thick hide and reach his vitals, and he must have the power to plant one, two, or three arrows quickly in the buffalo's side before he turned upon his assailant.

Implements of this character and skill of this order the Indian possessed, and beyond this he was good enough horseman to avoid the beast's charge and circle round him until he was again on the buffalo's flank, and recommenced the

FIG. 82. Indians shooting buffalo on horseback

attack. Sometimes the first arrow would pierce the animal's heart, sometimes he would not fall until he had been wounded many times; but in the end the Indian with his bow and arrows generally won the day. In his great work on the North American Indians, Mr. H. R. Schoolcraft[1] says that 'an arrow from the bow of a Pawnee or Cheyenne has been known to pass through the body of a buffalo. In some old human bones at Saganaw, an arrow-head was found firmly embedded in the

[1] *The Indian Tribes of the U.S.A.*, vol. i. p. 77.

tibia of a man, nor could any force detach it.' In vol. iii. of the same work, Mr. H. H. Sibley writes :—

The bow and arrow constitute as effective a weapon in the chase of the buffalo as firearms,[1] from the greater rapidity with which it can be fired, and the equal certainty of execution. The arrow, which is less than a yard long, is feathered and pointed with iron, and with small grooves along it to allow of the more rapid effusion of blood. The force with which an arrow is propelled from a bow by an Indian of far less than the ordinary physical strength of white

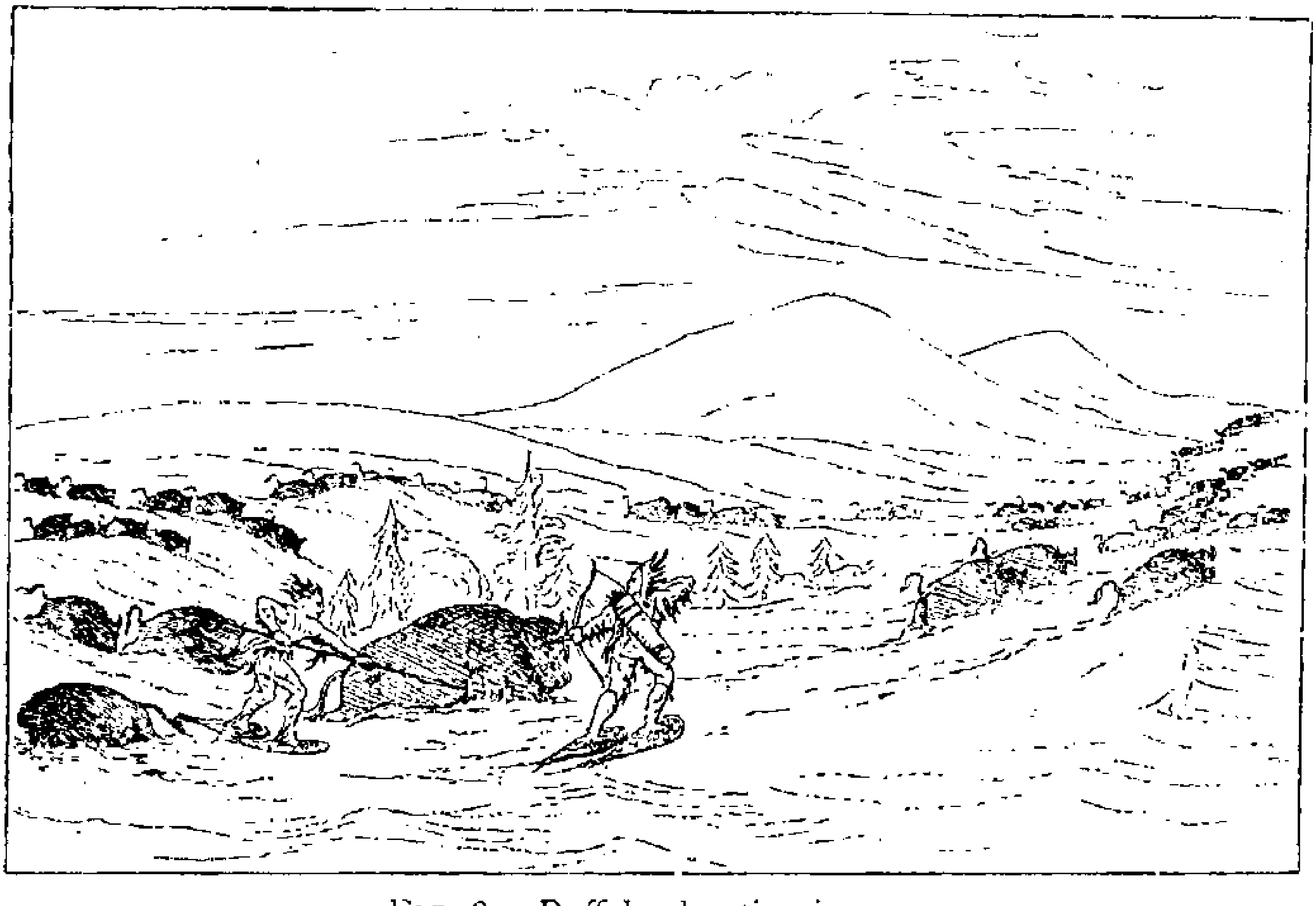


FIG. 83. Buffalo shooting in snow

men is amazing. It is generally embedded to the feather, and sometimes even protrudes on the opposite side. It is reported among the Dacotahs, or Sioux Indians, that one of their chiefs, Wah-na-tah by name, shot an arrow right through the body of a female buffalo, and killed the calf by her side.

It may be noted that Mr. Sibley does not personally vouch for the truth of this latter statement.

Another method of killing the buffaloes is mentioned by Catlin as being commonly employed by the Indians. They

[1] This was written in 1853, in the time of muzzle-loaders.

cover themselves entirely with the skins of wolves, and dragging their bows and arrows behind them, creep right up to a herd. Now the buffaloes, when in herds in the daytime, have no fear of wolves, though if a pack of wolves can isolate a single buffalo by night they will wear him out by degrees, and eventually kill him. Having crept close to a fat beast, the Indians throw off their disguise and shoot him, the commotion stampeding the rest of the herd.

Another use to which the Indians put the bow and arrow is

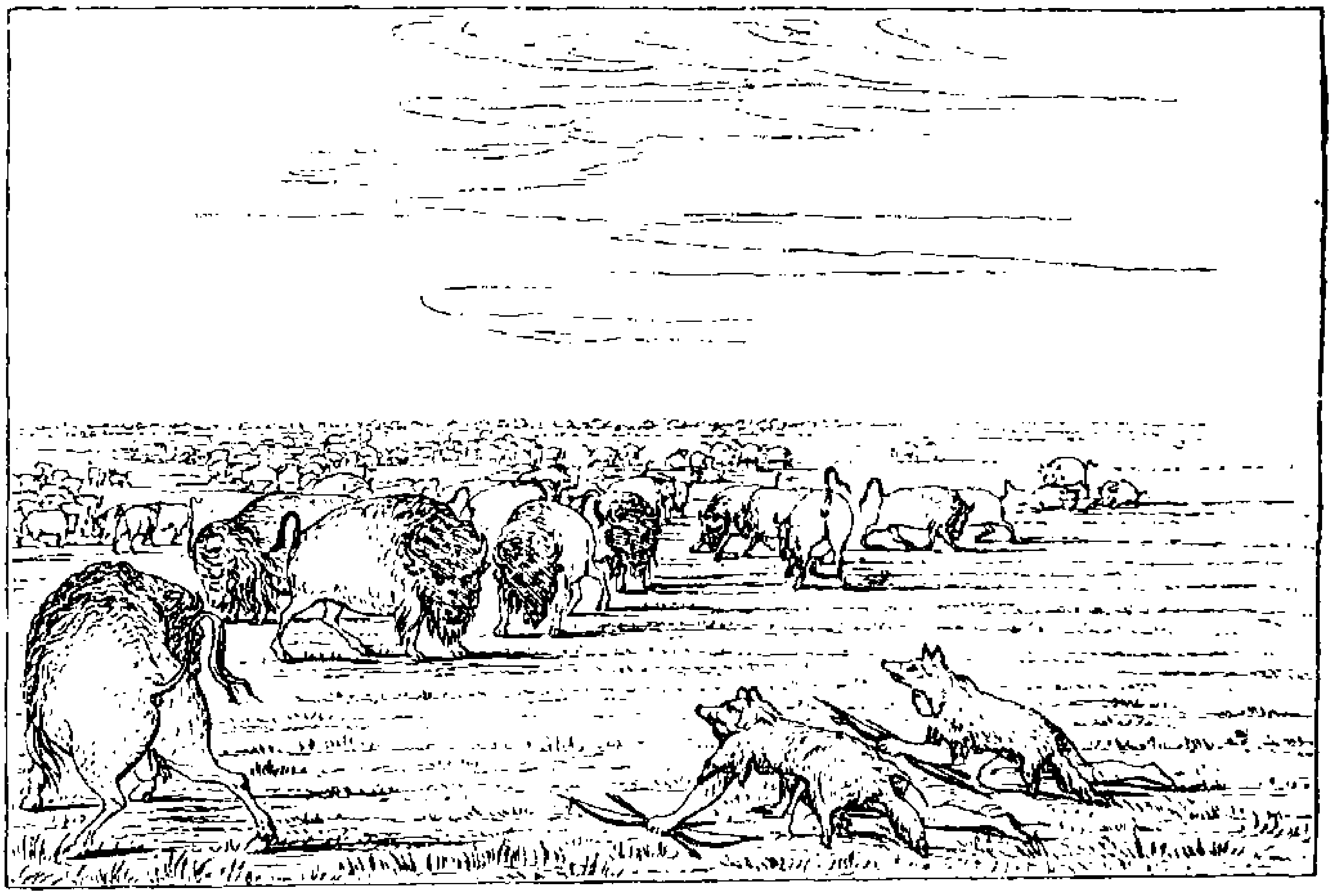


FIG. 84. Indians creeping up to buffaloes

for providing themselves with fish. They attach their arrow to the bow with a line, and wait silently by the water's edge till a fish comes near enough to the surface to shoot; the arrow being successfully planted, the bow is used as a fishing-rod and the fish quickly hauled out.

In attacking human dwellings the Indians would sometimes set fire to them by attaching burning matter to their arrows and shooting them at the roofs. Mr. J. Long[1] records an

[1] *Voyages and Travels of an Indian Interpreter.* London, 1791.

instance of this in 1778, when Mr. Shaw, a trader on Lake Manontoye, had some trouble with the Hudson Bay Indians, who 'attempted to set fire to his house with punk wood, which they shot at it lighted, fixed to the points of arrows.'

The Indians with their bows and arrows proved themselves at times formidable opponents to the Spanish conquerors of America. Those of the Spaniards who wore full suits of armour were, of course, comparatively secure, but occasionally one of the myriads of arrows loosed by the Indians would find its way

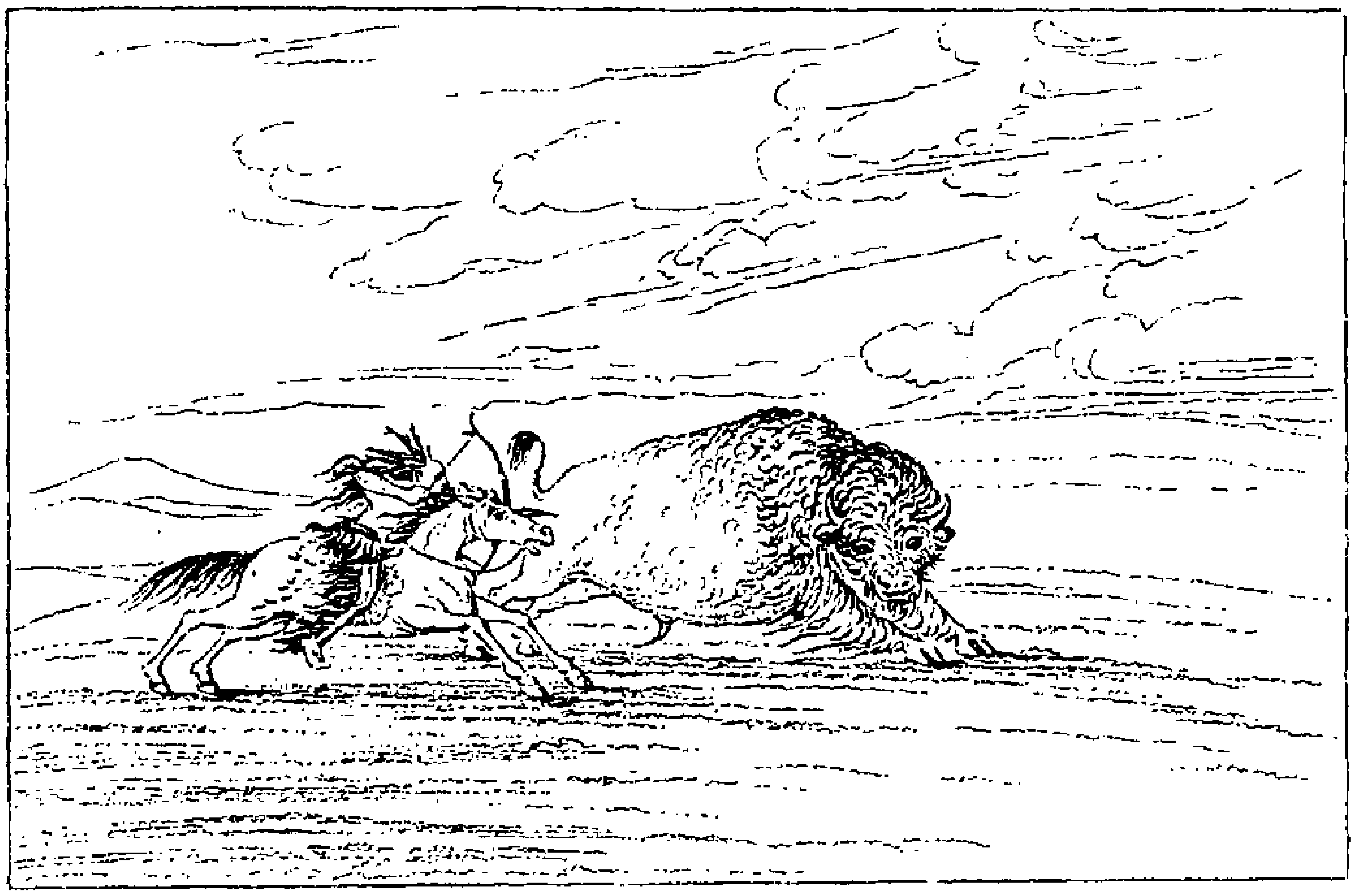


FIG. 85. Indian shooting buffalo

between the joints of the harness of the Spanish cavaliers, and the common soldiers, who were less completely protected, frequently fell before the Indian archers. Still more exposed to the arrows were the horses—those dreaded beasts which played so great a part in the downfall of the empire of Montezuma—and Cortes and his followers long remembered the flights of arrows which decimated his little army as it struggled along the great causeway across the lake on the Triste Noche, that dreadful night when the Spaniards fled from Mexico to Tlascala.

An engagement which occurred in De Soto's expedition against the Appalachians in Florida in 1538, the story of which is told by Schoolcraft,[1] may be briefly described as a fairly typical fight in which the chivalry of Spain, with their organisation, their armour, and their firelocks, contended against swarms of Indians armed chiefly with the bow and arrow. De Soto's force consisted of 950 men, among them being many representatives of the Spanish nobility. He had, however, pressed forward with an advanced guard consisting of 100 infantry and 100 cavalry, leaving the remainder of his army to follow by easy marches. He occupied a fortified village named Mauvila, on the Coosa River, stowing his baggage and provisions within the palisades, while part of his force encamped within the village and part without. He brought with him a prisoner named Tuscaloosa, or the Black Warrior, a noted chief among the Indians. Opposed to him was an immense force, consisting of the combined tribes of the Creeks, the Choctaws, and the Chickasaws. They made no resistance to the occupation of the village by De Soto, but their time was coming.

Early the next morning the war-cry of Tuscaloosa was heard, and the Spaniards learnt that they had fallen into a trap. Countless Indians immediately swarmed out of the houses in the village, in which they had been concealed. De Soto and his men were driven out of the town, and forty of the horses, which were tied to trees outside, fell dead under the volley of arrows. De Soto led his remaining sixty horsemen and all his infantry to storm the fort. They were repulsed by flights of arrows shot through the loopholes in the palisades. So the fight went on, the Indians constantly sallying out and charging the Spaniards, who inflicted severe loss on them, while it was only now and then that an Indian arrow went home in an unarmoured spot of a Spaniard's body. At length the rearguard of De Soto's army came up and the place was finally carried. The Spaniards claim that they killed 2,500 Indians, but it cost them the lives of eighty-two men and forty-two horses. Of the

[1] Vol. iii. 1853, from which this account of the affair is condensed.

eighty-two Spaniards killed, eighteen were shot either in the eye or the mouth, and but for their armour the result would have been different. In one of the dead horses an arrow was found to have passed clean through the saddle and housings, and one-third of its length had penetrated into the body of the horse. It does not appear that the use of poisoned arrows was common among the North American Indians, though the Rev. J. G. Wood says that it was occasionally resorted to;[1] and, indeed, it is not among the more manly and courageous races that poisoned arrows are generally met with.

The Eskimo are weaker and less skilful archers than the Red Indians. They are, for the most part, a peaceful race, and use their bows and arrows mainly for killing reindeer, rabbits, and wild birds. Their bows are stiff, but the materials of which they are made are so poor that they seldom shoot at a longer range than twenty yards. Their bows are, however, occasionally capable of throwing an arrow fair distances, as Sir E. Belcher[2] says that one of the most powerful of the tribes in the neighbourhood of Cape Lisburne shot 176 yards, carefully measured. He adds that this was the extreme range obtained by any native between California and Icy Cape.

An interesting method of hunting with the bow and arrow is still carried on by the Ainus of Sakhalin, who habitually kill both bears and deer with these weapons. Both these animals are now getting scarce in Yesso, where the Ainus have consequently few opportunities of hunting. But game is still plentiful in Sakhalin, where the Russians, who have a penal settlement on the island, interfere but little with the natives and their pursuits. Mr. Howard,[3] who recently lived some weeks in an Ainu village in Sakhalin, gives an interesting account of one of these deer-hunts, at which he assisted. He started at early dawn with a dozen Ainus from the village where he was staying. In two or three hours they arrived at a plateau, in the centre of which was a large lake, where the Ainus told him to

[1] *Nat. Hist. of Man*, p. 651. [2] *Trans. Eth. Soc.*, vol. i.
[3] *Trans-Siberian Savages*, by B. Douglas Howard.

conceal himself behind a rock. The Ainus also concealed themselves in open order over a considerable stretch of ground, and then, by means of an artificial call resembling the note of a doe in distress, they succeeded in attracting the attention of a herd of deer. When the deer came in sight the Ainus exhibited the heads of a buck and two does which they had brought with them, skilfully imitating the natural motions of the animals, while they themselves were hidden in the bush. The accompanying illustration from a Japanese drawing representing a hunt of this description is kindly lent me by the Rev. J. Batchelor, from his work on the Ainus of Yesso. The stratagem was completely successful, the herd following their leader close up to the spot where the Ainus were concealed. At this moment every Ainu let fly, and three bucks fell, while two others were wounded. One buck had the arrow-head of sharp steel, procured from Japan, in his heart, and another in the pericardium ; but none of the three was quite dead, and two fought gallantly before they finally succumbed. The Ainu bows are stiff weapons about four feet long, with short arrows about eighteen inches in length, which with their sharp heads are effective enough at twenty to thirty yards. Sometimes they poison the heads, especially when they attack bears ; and Mr. Howard, as a special favour, was initiated into the method of preparing this poison. This affair was considered a great mystery, and was carried on in the sacred corner of a hut which was set apart for the use of the chiefs. The head arrow-artificer first cut up and pounded to powder some roots of monkshood. The powder was then boiled a long time in about a quart of water, till more than half the water was boiled away ; the residue was then strained through a piece of rag, and evaporated further to a pulpy consistency.

The next ingredient was the bodies of six spiders, which were pounded and treated in a similar way in a smaller vessel. The gall bladders were then cut out of three foxes, and the contents extracted and also boiled down. Each of these substances was placed in a sea-shell, and various incantations

performed. They were carefully mixed, and more ceremonies performed. The Ainu then dipped a piece of grass into the compound, and lightly touched Mr. Howard's tongue with it. Mr. Howard says that 'the sensations at the point of contact were of a pricking, acrid pungency, then through the mouth and fauces excessive dryness. A few minutes afterwards the part of the tongue touched seemed non-existent, for all sensation in it had ceased.'

Few races have the bow more frequently in their hands than the Andaman Islanders, who teach their children to shoot at

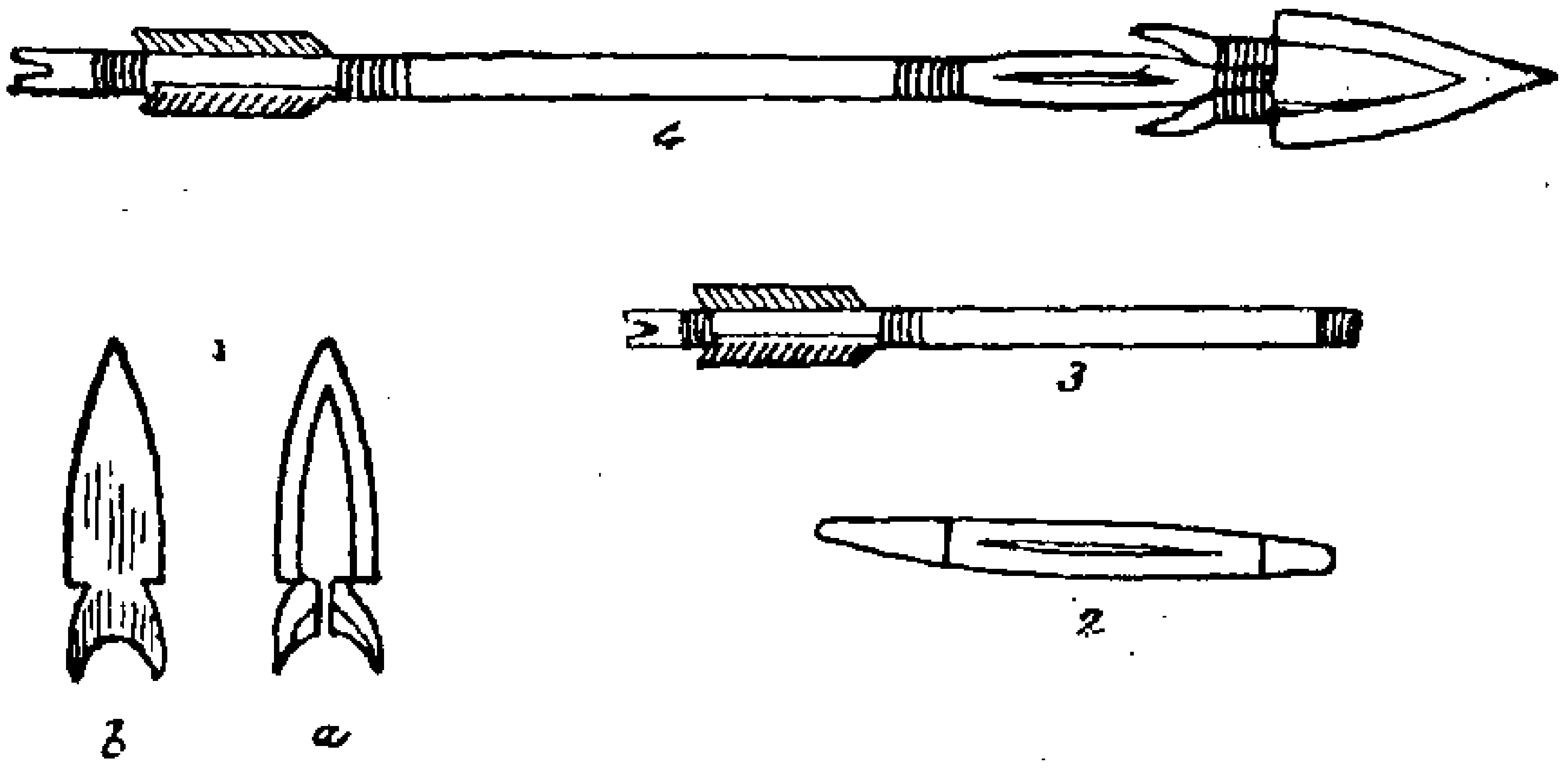


FIG. 88. Ainu poisoned arrow. 1 (*a*) bamboo arrow-head, (*b*) ditto, scooped out to hold poison; 2, bone in which the arrow-head is fixed; 3, reed shaft; 4, complete arrow
(*Batchelor*)

an early age with small bows and arrows. The Rev. J. G. Wood[1] says that they attain great skill, and can make fairly sure of a man at sixty or seventy yards. Even this does not imply any extraordinary accuracy, judged from an English standpoint; but the evidence of Mr. Portman, whose authority on the subject of the Andamanese is indisputable, is less favourable. In a letter dated May 5, 1893, he writes to me as follows:—

The Andamanese are of two kinds—Jungle-dwellers and Coast-dwellers, the former of whom, of course, use the bow most. The jungles being very thick, arrows are never shot to any distance, and the Coast-dwellers only use them in shooting fish in surf at

[1] *Nat. Hist. of Man*, vol. i.

very close quarters. The length and weight of the arrows and the absence of feathers prohibit shooting at long distances. Most Andamanese could hit a man at thirty yards, but they are not good shots. They can judge direction fairly, but at a hundred yards have no idea of elevation or windage. I have been under fire at the Little Andaman in a boat about a hundred yards from shore. The arrows hissed into the water round the boat like hail, but not a man was hit.

Mr. Portman also tells me that the Andamanese shoot the pigs which inhabit the jungle with the bow and arrow. For this purpose they make a stouter and longer arrow than they generally use. The ordinary arrows are made from bamboo, with a hardwood foreshaft, but the pig-arrows are cut from the branch of a tree.

I cannot find any instance of remarkable skill in archery among the natives of the Pacific Islands, and, indeed, the rudeness of the weapons employed would render any accuracy of aim impossible. Mr. Ellis,[1] however, reports that the natives of Tahiti can shoot to a great distance. He says that when he was there archery was a sacred game. The natives put on a special dress when they practised it, and did not shoot at a mark, but merely tried who could shoot farthest. The arrows used were made of small bamboo-reeds, and were very light and durable. They were pointed with ironwood, about two feet six inches to three feet long, and neither barbed nor feathered. Mr. Ellis says that the archer bent on one knee and drew the arrow to the head, the bow being so loosely held that it fell to the ground when the arrow was discharged. In spite of this wretched style of shooting, and of the fact that the arrows had no feathers, Mr. Ellis says that the distance reached was frequently three hundred yards. This seems incredible, and it is hardly possible to doubt that the measurement was most inaccurate.

In Tonga, Mr. W. Mariner[2] reports that a curious form of

[1] *Polynesian Researches*, vol. ii. p. 299. London, 1829.

[2] *An Account of the Natives of the Tonga Islands*, by W. Mariner. Edited by John Martin. London, 1817.

hunting with the bow and arrow is in vogue. It is, in fact, a game called *fanna gooma*, or rat-shooting. A party of chiefs having determined on a day's sport, they send some attendants along the path they have determined to follow, with instructions to chew betel-nut as they go, and spit out the particles on the path. This attracts a number of rats, and about ten minutes afterwards the sportsmen set forth, armed with bows and arrows, along the same path. The sportsmen are divided into two parties, who walk in single file, each man being followed by a man belonging to the other side. Whenever a man shoots, whether he kills a rat or not, he changes places with the man behind him, the party that first kills ten rats winning the game. Mr. Mariner does not state what percentage of shots are successful, or at what distances the Tongans shoot. They use, however, very long, featherless arrows, about six feet long, and probably discharge at very close quarters.

I have not been able to obtain any reliable accounts showing that any natives of Africa possess extraordinary skill with the bow, though some shoot fairly well if we take into consideration the inferiority of their weapons. As we have already seen, the more warlike races, such as the Kaffirs, do not use the bow; while the weaker races, such as the Bushmen and the forest tribes of Central Africa, rely more on the poisoned heads of their arrows than on the force or accuracy with which they can shoot them. Many tribes, however, still use the bow in hunting as well as war, and I am indebted to Mr. F. Jackson, who has spent a long time in East Africa, for an interesting account of a trial to which he put some native archers. In the month of May 1885 he invited some of the Wasania tribe, who are an offshoot of the great Waboni tribe, and who live almost entirely by hunting with the bow, to give an exhibition of their skill. This tribe lives on the coast, a little north of Lamu. At first they demurred, on account of the risk of injuring the edges of their iron arrow-heads, which are exceedingly sharp and well-kept, against the buffalo's skull and horns which Mr. Jackson proposed as a target. However, eventually several of them

very close quarters. The length and weight of the arrows and the absence of feathers prohibit shooting at long distances. Most Andamanese could hit a man at thirty yards, but they are not good shots. They can judge direction fairly, but at a hundred yards have no idea of elevation or windage. I have been under fire at the Little Andaman in a boat about a hundred yards from shore. The arrows hissed into the water round the boat like hail, but not a man was hit.

Mr. Portman also tells me that the Andamanese shoot the pigs which inhabit the jungle with the bow and arrow. For this purpose they make a stouter and longer arrow than they generally use. The ordinary arrows are made from bamboo, with a hardwood foreshaft, but the pig-arrows are cut from the branch of a tree.

I cannot find any instance of remarkable skill in archery among the natives of the Pacific Islands, and, indeed, the rudeness of the weapons employed would render any accuracy of aim impossible. Mr. Ellis,[1] however, reports that the natives of Tahiti can shoot to a great distance. He says that when he was there archery was a sacred game. The natives put on a special dress when they practised it, and did not shoot at a mark, but merely tried who could shoot farthest. The arrows used were made of small bamboo-reeds, and were very light and durable. They were pointed with ironwood, about two feet six inches to three feet long, and neither barbed nor feathered. Mr. Ellis says that the archer bent on one knee and drew the arrow to the head, the bow being so loosely held that it fell to the ground when the arrow was discharged. In spite of this wretched style of shooting, and of the fact that the arrows had no feathers, Mr. Ellis says that the distance reached was frequently three hundred yards. This seems incredible, and it is hardly possible to doubt that the measurement was most inaccurate.

In Tonga, Mr. W. Mariner[2] reports that a curious form of

[1] *Polynesian Researches*, vol. ii. p. 299. London, 1829.

[2] *An Account of the Natives of the Tonga Islands*, by W. Mariner. Edited by John Martin. London, 1817.

hunting with the bow and arrow is in vogue. It is, in fact, a game called *fanna gooma*, or rat-shooting. A party of chiefs having determined on a day's sport, they send some attendants along the path they have determined to follow, with instructions to chew betel-nut as they go, and spit out the particles on the path. This attracts a number of rats, and about ten minutes afterwards the sportsmen set forth, armed with bows and arrows, along the same path. The sportsmen are divided into two parties, who walk in single file, each man being followed by a man belonging to the other side. Whenever a man shoots, whether he kills a rat or not, he changes places with the man behind him, the party that first kills ten rats winning the game. Mr. Mariner does not state what percentage of shots are successful, or at what distances the Tongans shoot. They use, however, very long, featherless arrows, about six feet long, and probably discharge at very close quarters.

I have not been able to obtain any reliable accounts showing that any natives of Africa possess extraordinary skill with the bow, though some shoot fairly well if we take into consideration the inferiority of their weapons. As we have already seen, the more warlike races, such as the Kaffirs, do not use the bow; while the weaker races, such as the Bushmen and the forest tribes of Central Africa, rely more on the poisoned heads of their arrows than on the force or accuracy with which they can shoot them. Many tribes, however, still use the bow in hunting as well as war, and I am indebted to Mr. F. Jackson, who has spent a long time in East Africa, for an interesting account of a trial to which he put some native archers. In the month of May 1885 he invited some of the Wasania tribe, who are an offshoot of the great Waboni tribe, and who live almost entirely by hunting with the bow, to give an exhibition of their skill. This tribe lives on the coast, a little north of Lamu. At first they demurred, on account of the risk of injuring the edges of their iron arrow-heads, which are exceedingly sharp and well-kept, against the buffalo's skull and horns which Mr. Jackson proposed as a target. However, eventually several of them

agreed to take the iron heads out and shoot with headless arrows. They fired four or five arrows each at the buffalo's skull and horns, which Mr. Jackson put up at a distance of sixty yards, carefully measured. All the arrows went remarkably close to the target, but only one struck it, all the other arrows passing just to leeward. It is possible that if the heads had been on the arrows they would have made their way better through the cross-wind, and that more would have struck the target. Their shooting struck Mr. Jackson as being fairly accurate at that range, and this opinion will probably be shared by archers, though the performance is not one which upholds the stories of almost magical skill which are sometimes told about tribes who habitually use the bow. Mr. Jackson tells me that in this part of Africa the natives smear their iron arrow-heads with a vegetable poison which, when fresh, is very deadly, though its power fails in a short time when it becomes dry. A human being will die in twenty minutes after being wounded, and even an elephant will be practically paralysed in a short time. The Wasania and the Wakamba shoot their poisoned arrows into an elephant and track him at leisure, knowing that they will find him in an hour or two in a helpless condition. The Wanderobo, on the borders of the Masai country, kill the elephant by smearing a spear with the same poison; creeping up from behind, they plunge it into him, and follow him till they find him paralysed.

Captain Grant, in writing on the native tribes of Equatorial Africa,[1] says that the Unyamwezi can put an arrow into a leaf at thirty or forty yards, and can send an arrow 150 yards. This distance seems credible enough, and though the measure of accuracy at short range which Captain Grant gives is somewhat vague, the feat is not improbable, especially when one remembers that leaves in tropical countries are sometimes large.

The Rev. Mr. Dale, of the Universities Mission in South-East Africa, tells me that the natives whom he has seen shooting in the neighbourhood of Zanzibar are very bad shots. They

[1] *Trans. Eth. Soc.* vol. iii. N. S.

seldom shoot at a greater range than twenty or thirty yards, and are not at all accurate. A favourite game with them is to put an arrow in the ground and shoot at it from a few feet off. The attraction of this pastime seems to be gambling rather than archery, as the man who succeeds in splitting the arrow takes the arrows belonging to the losers.

The Bushmen rely entirely on their poisoned arrow-heads, as they could kill neither man nor beast merely by the penetration of the arrow from their weak little bows. The Rev. J. G. Wood[1] says that forty yards is their extreme range, and that they prefer ten or twelve. He quotes a test which Mr. Burchell applied to a Bushman. He set up an antelope-skin about seven feet square at some twenty yards, and at the first shot the Bushman missed it clean. He struck it, however, at a second attempt. The Bushmen use both vegetable and animal poisons. The former are chiefly obtained either from the bulb of the *Amaryllis toxicaria* or the juice of one of the Euphorbias. Animal poisons are of several kinds, amongst them being the matter from the poison-gland of several kinds of snakes; they also, like the Ainus, use the juices from a large black spider. The most terrible poison of all, however, is made from the body of a grub called the N'gwa, or K'aa, which drives any unfortunate being, whether human or otherwise, who is wounded by it raving mad before he dies in agony. A full account of this poison, with which the Bushmen even attack and kill the lion, is to be found in Mr. Wood's book mentioned above. The poison used by the Wa Nyika and other tribes in East Equatorial Africa is prepared from the stem and root of a tree which Dr. T. R. Fraser and Dr. J. Tillie[2] have identified as belonging to the genus Akokanthera, though the species has not yet been determined. It appears to cause death by arresting the action of the heart.

[1] *Nat. Hist. of Man*, vol. i. pp. 284 *et seq.*

[2] 'Preliminary Notice on the Arrow Poison of the Wa Nyika,' by T. R. Fraser, M.D., F.R.S., and J. Tillie, M.D. (*Trans. Roy. Soc.* 1893). This paper gives a full chemical account of this poison and its effects on frogs and rabbits.

One of the most famous and deadly arrow poisons is the wourali, or curare, which is manufactured by the Indians in Guiana. One of the journeys of the well-known naturalist, Charles Waterton,[1] was undertaken with the object of obtaining some of this poison and discovering the secret of its manufacture. Mr. Waterton says that it is used by all the tribes between the river Amazon and the Orinoco, but that the Macoushi, in Essequibo, make a stronger poison than any other tribe, and that the Indians come from long distances to buy it. As in the case of the Ainus, the process is surrounded by mystery, and partakes to some extent of the nature of a religious ceremony. The principal ingredient in the mixture is the wourali vine, which the Rev. J. G. Wood identifies as *Strychnos toxifera*, and says is allied to the tree which furnishes strychnine. He also says [2] that this tree is of the same genus as the upas-tree, from which the Dyaks of Borneo, who, like the South American Indians, use the blow-pipe, obtain the poison for their arrows. The next ingredient is the root of the hyarri, a papilionaceous plant; and, thirdly, the stems of two bulbous plants which contain a glutinous juice. Here, again, we find poison from the fangs of snakes introduced, and also the bodies of two kinds of ants. The whole is then pounded, and boiled till it is reduced to a thick syrup. When these tribes are in search of birds they seldom carry their bows, but use their blow-pipes, from which, Mr. Waterton says, they can send their light, poisoned arrows to a height of three hundred feet. He does not, however, give any details in support of this general statement. If it is accurate, the range of the South American blow-pipe exceeds that of the sumpitan of Borneo, which the Rev. J. G. Wood says will not send an arrow more than seventy or eighty yards, and not more than forty yards with any effect.

For war, and also for hunting the larger animals, the Indians

[1] *Wanderings in South America*, by Charles Waterton, 4th ed. 1839. See also *The Indian Tribes of Guiana*, by the Rev. W. H. Brett, 1868.

[2] *Nat. Hist. of Man*, vol. i. p. 595.

of South America use the bow, poisoning their arrows with the wourali. In this way they kill the tapir, the sloth, the panther, and the puma, which are the largest animals in their forests. Mr. Waterton recounts an experiment which was carried out on an ox which sufficiently shows the deadly nature of this poison. Three poisoned arrows were shot into the beast, which weighed from nine hundred to a thousand pounds. In order to test the effect of the poison thoroughly, the arrows were planted, one in each thigh, and the third into the extremity of the nostril, thus avoiding vital parts. The poison seemed to begin to take effect in four minutes, but he remained still for fourteen minutes, when he advanced a pace or two, staggered, and fell. He never rose again, and in five-and-twenty minutes from the time of his being wounded he was dead. Mr. Waterton adds that his flesh was very sweet and savoury at dinner.[1]

Many and marvellous tales have been told of the feats performed with the composite bow in the hands of Turkish and Persian archers. There can be no doubt, however, that this bow is capable of very strong shooting, and the fact that Mr. Muir, the Edinburgh bowmaker, was able to attain a slightly greater distance in shooting with a Turkish bow than he ever reached with one of his own manufacture, proves conclusively the power of the weapon. In this connection mention may be made of the marvellous shot said to have been made by Mahmoud Effendi with a Turkish bow and a very light arrow, both of which are now in the possession of the Royal Toxophilite Society, though an apology is due to the gentleman for introducing him into a chapter dealing with savage archery. Roberts,[2] whose book was published in 1801, thus describes the incident :—

In the year 1795 Mahmoud Effendi, secretary to the Turkish Ambassador, a man possessing very great muscular power, shot an arrow with a Turkish bow four hundred and eighty-two yards, in the presence of three gentlemen, members of the Toxophilite

[1] *Wanderings in South America*, 4th ed. p. 64.
[2] *The English Bowman*, p. 100.

Society, now living, who measured the distance, and to whom he observed that the present emperor (Sultan Selim) could shoot farther than any one of his subjects.

He goes on to say that the said Sultan, in the year 1798, shot an arrow 972 yards 2¾ inches in the presence of Sir Robert Ainslie, then English Ambassador at the Ottoman Porte. Roberts does not give his authority for the latter feat, and it seems incredible. Mahmoud Effendi's shot, however, is undoubtedly well attested. It appears from another account that the arrow flew out of the ground over one or more hedges, and these obstacles may have caused some inaccuracy of measurement. It is, however, difficult to dispute the substantial accuracy of the statement in the face of the evidence.

CHAPTER VII

MILITARY ARCHERY IN THE MIDDLE AGES

BY VISCOUNT DILLON

THERE does not appear to be any definite information obtainable as to when archery was first introduced into England. Ascham[1] says Sir Thomas Eliot, Kt., told him

> that he had read and perused over many olde monuments of Englande, and in seking for that purpose (to ascertain this point) he marked this of shootynge in an excedyng olde cronicle, the which had no name, that what time as the Saxons came first into this realme in Kyng Vortigers dayes, when they had bene here a whyle and at last began to faull out with the Brittons, they troubled and subdewed the Brittons wyth nothynge so much as with their bowe and shafte, whiche wepon beynge straunge, and not sene here before, was wonderfull terrible unto them, and this beginninge I can thynke verie well to be true.[2]

This would fix the date of the introduction at about 449, and from the fact that we use the Saxon words *boga* and *arewa* it is quite possible that this was the case. It is evident from a casket, in the British Museum (fig. 89), representing a man defending his house, which, from the Saxon runes on it, is ascribed by Mr. Stephens[3] to the eighth century, that archery was practised in England in about 750.

[1] *Toxophilus.*

[2] Mr. Latham (Add. MS. B.M., 29788) thinks this information was obtained from *Sax. Ann. Huntingd.*

[3] *Runic Monuments*, p. 470.

Some have supposed that the long-bow was introduced into England by the Conqueror, but the appearance of archers among the English in the Bayeux tapestry shows that bows and arrows were familiar to them before this date. It is clear that the employment in war of archery weapons must have followed close on their use in the chase. According to Wace, all the Norman foot troops carried bows; but these, especially archers, were in many cases clad in the armour then in use, such as leather or quilted linen coats. Mounted archers are also seen in the Bayeux tapestry, which in so many respects confirms the graphic account of Wace.

Fig. 89. Top of a casket in whalebone in the British Museum. Eighth century.
(*From Litchfield's 'Illust. Hist. of Furniture'*)

At the battle of Hastings the archers in William's army commenced the attack by showers of arrows, but the battle soon became one in which hard blows were the more numerous, and perhaps Harold's death by an arrow has given undue prominence to this arm. After Hastings we find archers again at Galeran and other combats opening the action and crippling the enemy's horse, and besides these

mounted archers; probably both classes the English subjects of the Norman kings then fighting against the King of France. Next, on English ground, the English archers at Northallerton in 1138 gave the Scotch a foretaste of the future pre-eminence of the bow.

The Welsh archers of the eleventh century were also famous for the powerful elm bows with which Giraldus Cambrensis tells us they inflicted severe wounds, at short distances even pene-

FIG. 90. Martyrdom of St. Edmund
(*Royal MS.* 2, *B vi. f.* 10. *Thirteenth century*)

trating an oak gate four fingers in thickness. Of the appearance of the Welsh archers in the next century we may judge from the curious caricature on the margin of two contemporary volumes of MS. now in the Public Record Office, where we see one of these warriors, with but one foot covered, discharging, from what appears to be a very short, stout bow, a short barbed arrow.

In 1138, at the Battle of the Standard, according to Roger de Hoveden, King Stephen's archers by their thick clouds of

arrows contributed in a large degree to the success of the king. As in later times it has been the pride of light troops to be first in and last out of a fight, so in older times we find their prototypes the archers striking the first blow, and finishing the work of the more heavily armed bodies.

In Richard Cœur de Lion's time, both in his wars abroad and also in the struggles with his brother John, the English archer appears as a most powerful factor in every fight. Henry I. had already encouraged archery by treating the accidental killing of anyone during the practice of this exercise as no crime.

According to Fitzstephen the practice of archery was no less one of the amusements of town lads than of the countryman, and was encouraged by statute. In battle array, though we generally find the archers placed on the flanks, they were sometimes mingled with the horsemen, as in Edward I.'s wars in Wales and Scotland. When a knight was bound to bring with him into the field so many mounted men and so many archers, it is probable that the two classes were often mixed up, but the most of the archers would of course be used as in Edward III.'s wars, in large masses. The archer brought with him his bow and arrows, and perhaps an iron headpiece, though as early as 1284 we find an archer from Shropshire attending in the Welsh wars with a terpolus or caltrop. It was not till Henry V.'s time that the archer's stake appears as an item in the general equipment of this class of soldier.

When we come to the Scotch wars of the first Edward we find at Falkirk, 1298, the Scottish archers were ridden down by the English cavalry, whilst the English archers broke up the massive squares of Scottish pikes and allowed their cavalry to complete the overthrow of the Northern troops. As in later times, however, improved tactics soon lessened the danger which the archers were able to cause, and Edward II., with his archers taken in flank, and his cavalry entangled in the ditches and obstacles prepared by Bruce, sustained the crushing defeat of Bannockburn, 1314.

With the appearance of Edward III. on the scene the bow again rises to its former importance. At Halidon Hill, in 1333, the English archers, judiciously posted, avenged the defeats of the previous reign and gave promise of their future worth in the French wars.

When considering the prominent part taken by the English archers in the great war with France, it will be advantageous to note the position they occupied in the field on some of the more important occasions. At Edward's great naval victory, known as the Battle of Sluys, in 1340, we find the archers placed on ships alternating with others containing men-at-arms, while other vessels on each flank of the line were filled with archers. The enemy, who had large numbers of crossbowmen in their vessels, were also much more numerous than the English; but the fight, which lasted from 6 A.M. till noon, was carried on at close quarters and ended, as we know, in the destruction of the French fleet. The 'Christopher,' which had been previously captured by the French and filled with crossbowmen, fell into the hands of the English, who, replacing these with archers, engaged with the Genoese on the other vessels. No doubt the tactics of Edward in gaining the advantage due to the sun and wind materially assisted in securing the victory for the English, but the rapidity of the bow told no less on sea than on land.

In August 1346, at the battle of Blanche Tache, we find the English archers quelling the crossbowmen and enabling their own men-at-arms to cross the river under the protection afforded by the rapid discharge of their arrows. A few days later at Créçy, the archers had an opportunity of showing their value in a pitched battle. The mounted archers here fought on foot, their horses, as also those of the cavalry, being placed in the rear of the army. The bowmen, seated on the ground with their bows by them, awaited the advance of the French, who sent forward the Genoese crossbowmen with shouts. After the third time they commenced to discharge their quarrels, but were at once answered by the English, who, rising

to their feet, poured out a pitiless storm of arrows which soon effected the rout of their enemies. Now it was the turn of the French cavalry, while riding down their unlucky allies, to feel the terrible showers of arrows. The result we all know. The archers in this fight, no doubt, were the cause of the very heavy loss of life among the French, and whether there were cannon at Créçy or no, to the archers was due the successful termination of the battle.

At Calais during the next few months the archers kept the port closed and rendered the siege effective by shutting off all hope of assistance or supplies by sea.

Ten years later at Poictiers the archers again contributed in a large degree to the success of the day, but on this occasion we find them making field intrenchments, and so adding materially to their value. The archers covered the front with parties on each flank to command the entrance to the defile in which the Black Prince placed his dismounted men-at-arms. But besides these footmen, the mounted archers acted with other cavalry in a flanking movement directed against the troops of the Duke of Normandy. It must not be forgotten that the selection of ground for the English position was, both at Créçy and Poictiers, admirably adapted for giving to the national arm the fullest scope, and considerably enhanced the fighting value of these light troops, who in the open, and with their flanks unprotected, would have had small chance with the heavy cavalry of the French, even with their rapid and accurate discharges of arrows.

At Nogent, again, in 1359, the ground chosen by the English was favourable to them, and but for the arrival of a fresh body of French, who, protected with large shields, broke through the exhausted archers and forced them to fly, the day would have terminated as usual; but the defeat of the archers led to the rout of the rest of the English force.

In 1364, at Auray, the archers found the French so well armed, and provided with shields, that they cast aside their bows, and, rushing on the French, took from them their axes,

with which they defeated them. At Navarrete the English archers at first suffered somewhat from the slings of their Spanish foes, but the bow soon asserted itself as the superior weapon.

FIG. 91. Martyrdom of St. Sebastian
(*Brit. Mus. Add. MS.* 28785, *f.* 169 *b.* *About* 1450)

The sheriffs of several counties were directed in the 15th of Edward III. to supply 500 white bows and sheaves of arrows for the king's service, and in the following year similar supplies

are commanded, but from Gloucestershire 500 painted bows in addition are called for. Many such orders are to be found in the various reigns, and from one issued in 1369 by the sheriff of Norfolk, in consequence of a writ requiring him to supply arrows, we learn how they were provided. It directs the fletchers of Norwich to inquire where dry and seasoned wood is to be found, seize it, as well as the wings of geese, and bring both to Norwich, so that the arrows may be made. The last part of this order has led to a curious error; the word 'alas *au*carum' (wings of geese) have been transcribed 'alas *an*carum,' which Swinden[1] translates as the 'flukes of anchors,' a mistake followed by Grose, who states it as a curious fact.

As regards the use of the long-bow in battles on English ground, in 1402, at Hamildon Hill, the English archers settled the affair, the prodigious loss the Scotch sustained being entirely due to the English archers. Henry[2] tells us that at this battle the Earl of Douglas, who commanded the Scotch army, enraged at seeing his men falling thick around him in consequence of the shower of arrows, and trusting to the goodness of his armour (which had taken three years to make), rushed forward with about eighty other lords and gentlemen in complete armour, and attacked the English archers sword in hand. The English arrows were so sharp and strong, and discharged with so much force, that no armour could repel them, and the Earl of Douglas, having received five arrow wounds, was taken prisoner, a fate which also befell those of his companions who were not slain.

The next year, at Shrewsbury, Prince Henry was wounded in the face with an arrow, while his rival Hotspur met his death from a similar cause.

In the Wars of the Roses archers were, of course, used on both sides. At St. Albans, in 1455, Henry VI. and many of his nobles were wounded by the archers. At Towtou, in 1461, Lord Falconbridge made the Yorkist archers fall back im-

[1] *Hist. of Great Yarmouth*, p. 83.
[2] *Hist. of Great Brit.* vol. v. p. 463.

mediately on discharging their arrows, so that the Northern men replying emptied their quivers, but to no effect; according to Hall, they fell forty yards short, and Falconbridge then advancing his men, picked up and used many of these, whilst the splinters of some proved obstacles to their owners.

FIG. 92. Battle of Shrewsbury

(From Cotton MS. Julius E IV. art. 6. 'Life of the Earl of Warwick,' by John Rous)

Brilliant as were the services rendered by the archers in the French wars, it would be incorrect to suppose that the results in all cases were solely due to this branch of the troops. At Crécy they did certainly cause the overthrow of the cavalry opposed to them, and so entirely upset the French plan of

attack; whilst the mounted archers, by their flank attack on the Duke of Normandy's troops, contributed in no small degree to the result of the battle. But without the more heavily armed troops the archers could hardly have effected so decisive a success. At Nogent it was the heavy infantry that successfully withstood the French charges which the archers had failed to arrest.

At Auray, as we have seen, the archers, after unsuccessfully attempting to stop the French, changed their rôle, and fought with the axe like their more heavily armed comrades.

At Navarrete, at Pontvallain, and at Chizé, the archers, though very useful, cannot be said to have been the real cause of the success of the English. With the improvement of the French tactics and the presence of more practised soldiers, as effected by the addition of men from the 'Grandes Compagnies,' the superiority of the English archers over their foes waned, till the appearance of a real general like Henry V. again made them superior to the French, in spite of numbers and equipment.

All through the fourteenth century the English archer is the most prominent figure—whether on sea or on land, in the field or in siege, attacking or defending. The flights of their arrows are likened to a snowstorm; and Flemings, Genoese, and Spaniards, as well as the French, learnt the terrible effect of the English arrows, which pierced armour, and spared neither horse nor man. Besides the foot archer, the mounted archer formed the very *beau idéal* of light cavalry, and performed the duties of the modern dragoon or mounted infantryman. Certain counties were specially famous for the supply of bowmen—Cornwall and Cheshire in particular; and it was from the last-named that Richard II. drew his Archers of the Guard. The counties of Robin Hood and Adam Bell, and, indeed, most of the northern parts of England, were the homes of many of these soldiers. As late as 1544 we find an order for mounted archers to be supplied from Durham and Yorks for the Scotch war.

At Agincourt the archers were posted between thick woods with the stakes, which they had been ordered to prepare, placed in front of them. Before the fight began the king told the archers that the French intended to cut off three fingers of the right hand of any archers they might take, so as to prevent them ever again using the bow. The battle commenced with the advance of the archers, as the French would not attack. The English arrows, as on other occasions, caused death and confusion among the heavily-armed French, who were further impeded by the state of the ground. When the French dismounted men advanced in three columns, they were enveloped by the English archers, and these latter, when their arrows were exhausted, rushed in with leaden mallets and completed the discomfiture of their foes. The English archers are described as having undone the points or laces which held their hose to their jackets, and thus at their ease were able to move with great rapidity.

The stakes which the archers planted in front of them at Agincourt to break the charge of the French cavalry were six feet in length. In the next reign the Earl of Shrewsbury issued an order that the stake should be eleven feet long; and by another order every two yeomen were to make them a good pavise of boards or of paper in the best manner they can devise, that one may hold it whilst the other doth shoot.

Villani says that the archer could discharge six arrows for each one of the crossbowman's bolts, and many writers have adopted the same proportion for the relative speed of the two weapons; but if we consider the time actually occupied by each soldier in making ready his weapon for discharge, we shall find the difference much greater. For this inquiry we may take two specimens now in the Tower collection of cranequins or crossbow winders. These, numbered respectively $\frac{11}{17}$ and $\frac{11}{18}$, are metal arrangements of cogwheels and ratchet-bar, much on the principle of a lifting-jack. They differ from each other in the number of cogs on the wheels, but have each of them a handle 9 inches long. Taking the

power and time exerted by the hand of the crossbowman in turning his handle as equal to that exerted by the archer for equal distances, it will be found that, in order to draw back the claw holding the crossbow cord—6 in.—that being the ordinary distance from the cord at rest, to the nut, the crossbowman's hand will have to travel a distance of 184½ feet or 123¾ feet, according to the cranequin used. The archer will have to draw his hand back about 2½ feet. Consequently, the archer can pull his bow 110 or 49 times while the crossbowman is stretching his cord.

When it is considered that the long-bow spontaneously returns to the position of rest, while with the crossbow the cord has to be adjusted on the nut, the cranequin unshipped, and the ratchet run out again before the next discharge, it will be seen that each 'loose' of the long-bow will take much less than one-sixth of the time occupied in discharging a bolt from the crossbow. Where the system of pulleys was in use the tackle had to be overhauled to prepare the claw for seizing the cord. To this may be added that the cranequin and the windlass arrangement, when not in actual work, had to be attached to the girdle and detached for use. Even allowing for greater power being required to bend the long-bow than to wind up the cranequin, the proportion of the times taken contrast very strongly.

The English archer had also from early youth been trained to his weapon, and long habit made him more familiar with it than the most careful training could have effected for the higher paid crossbowman. Then the bow could be quickly dismounted and the cord protected from damp, while the crossbowman could not unstring his weapon. The bolt of the crossbow was, of course, a more powerful weapon than the arrow, and probably less likely to glance off the surface of plate armour ; so far as accuracy was concerned, it was also probably easier to shoot straight with the crossbow than the lighter arrow. But any advantages the foreign crossbowman had were more than counteracted by the superior rapidity of dis-

charge, and the very startling effect (which many authorities bear witness to) that arrows had on horses.

The pay of the archer varied at different times, but steadily

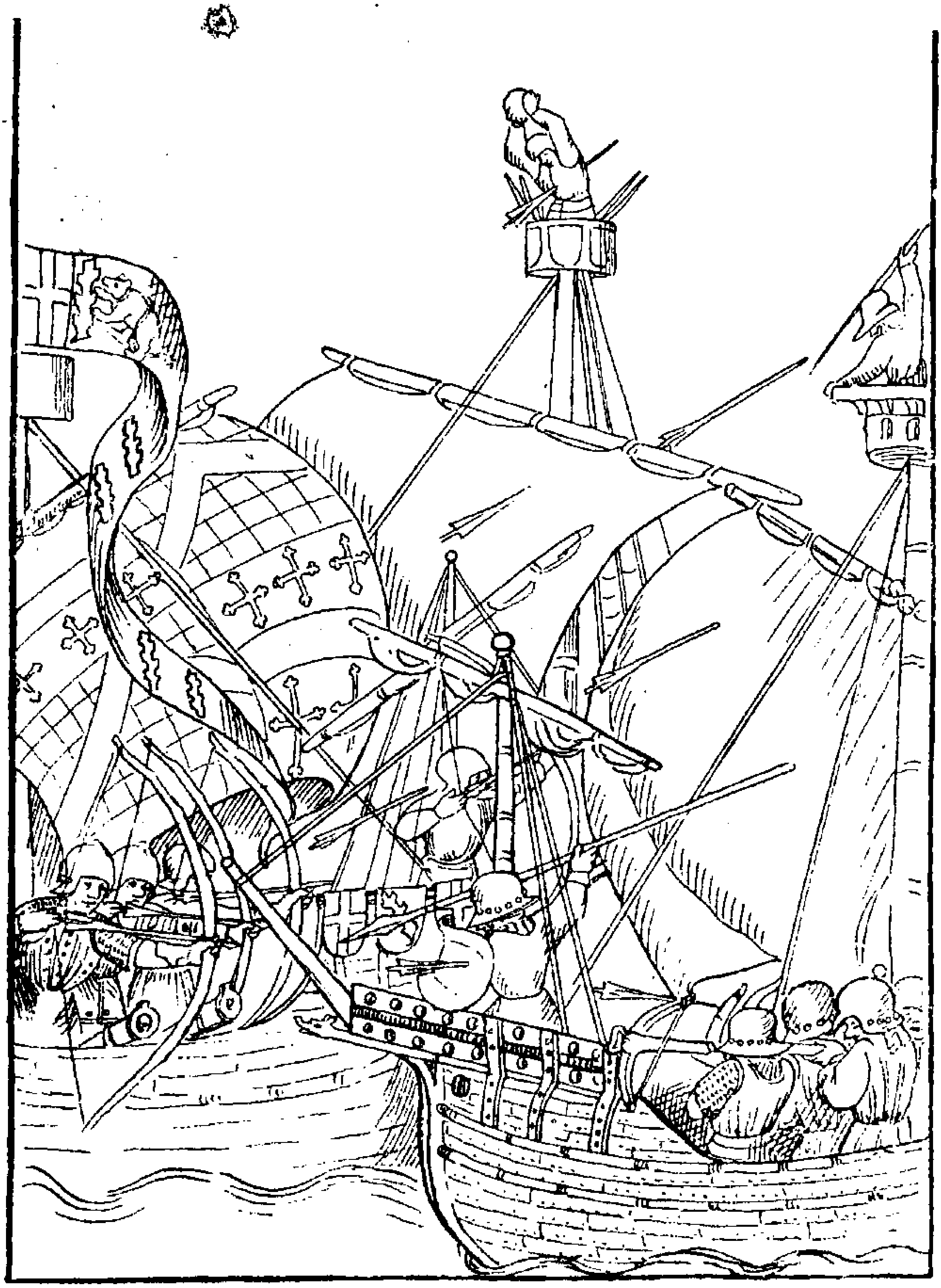


FIG. 93. Capture of two great carracks

(*From Cotton MS. Julius E IV, art. 6. 'Life of the Earl of Warwick,' by John Rous*)

improved; for in 1281 the foot-archer received but 2*d.* a day, while the crossbowman got 4*d.* In 1346 the archer got 3*d.*, and in 1421 we find the mounted archer receiving 6*d.* In Henry VIII.'s time the foot-soldier, whether archer or pike-man, received 6*d.* per diem, while the mounted archer got 8*d.*, and the demilance or ordinary cavalryman's pay was 9*d.* At this period the bowyers, stringers, and fletchers in the army received 6*d.*, and the master bowyer, &c., received the same pay as the surgeon—namely, 12*d.* In the beginning of the next reign we find Lord Cobham complaining to the Protector

FIG. 94. Mounted archers

(*From 'Departure of Henry VIII. from Calais, 1544.' From 'Monumenta Vetusta Pictures at Cowdray*)

Somerset that the increased pay—namely, 8*d.*—for the hag-butters 'will be a great hindrance and decay to the archery of the nation,' other soldiers receiving only 6*d.* per diem.

In 1369 R. de Beckyngham bequeaths 'arcum depictum cum sagittis.' Richard II. ordered all his servants never to travel without bows; and in the Harl. MS. 1319 we see the king accompanied by some mounted archers. In 1443 R. Esyngwold leaves by will one 'arcum rotundum' and one 'flatte bowe.' In 1471 J. Pickering's will mentions 'arcum in quo usus fui sagittare pelletes.' This was probably a long-bow, as we find such in the list of royal effects made on the death

of Henry VIII. The Indian gulail is the modern representative of this class of bow. In 1567 R. Vaudrey mentions 'a view bowe' in his will, perhaps one which had to be produced at musters, unless it was a misspelling of yew. 'A Peaced bow' occurs in N. Burnope's will, 1569; bequests of bows and arrows are, indeed, common in the wills of the fifteenth and sixteenth centuries, and as late as 1584.

These bequests often include quivers. They are generally of leather; but John Smallwood, in 1578, leaves 'a sheife of arrows with barbed heads and an arrow case of strawe with lock and key.' John Billingham, in 1577, leaves a 'longe bowe, one quiver, one arrow bagge, and a sheaf of arrows.' 'Prickshafts' occur in wills of 1506 and 1524; and in a list of the effects of a York tradesman of 1479 are 'shoyting shaftes, rowying shaftes, childre shaftes, clense arrows unnykt.'

In a survey of Sheriff Hutton Castle, 1526, '6 coffins of bows and arrows' are mentioned, and among the effects of the Earl of Essex at his house in London, in 1601, are 'manie longe bowes and sheaves of arrows.'

Bows and arrows, as might be expected, also occur frequently in the terms of tenure of lands, and many such instances will be found in 'Blount's Tenures.'

Blount's Tenures

Waterhall, Bucks.—A man and horse without a saddle, a bow without a string, an arrow without a head.

Aston Cantlou, Warwick, 22 Ed. III.—A bow without a string and one bassinet.

Drakelow, co. Derby.—Unam pharetram de Tutesbit, arcum sine corda, et xii sagittas flectatas et unum Buzonem.

Brineston, co. Cest.—Bow without cord, & an unfeathered arrow.

Lanton, 20 Ed. III.—A barbed arrow when the king came to hunt in Corndon Chase.

Auri & Hole, 9 Ed. I., Devon.—Duas sagittas barbatas.

La Barr „ „ Unum Salmonem et duas sagittas barbatas.

Drascombe „ „ unum arcum et tres sagittas barbatas.

Loston, 9 Ed. I., Devon.—Duas sagittas et unum panem avenæ.

Bryanston, Dorset, 8 Ed. I.—Arcum sine corda & unum Buzonem sine pennis.

Upton, Glouc., 15 Ed. I.—Ducenta capita sagittarum.

Bradeley, Lincoln, 9 Ed. I.—Viginti flectas.

East Smithfield, 22 Ed. I.—Unum hominem cum arcu et sagittis pro xl diebus.

Wrotting, 14 Ed., Suffolk.—Unum hominem peditum cum uno arcu et iv sagittis.

Chicester, 2 Ric. II.—Unum fucillum plenum fili crudi ad falsam cordam pro balista regis faciendam.

Over Colwich, 36 H. III.—12 barbed arrows.

Sciredum & Siplegh, Devon.—2 arrows.

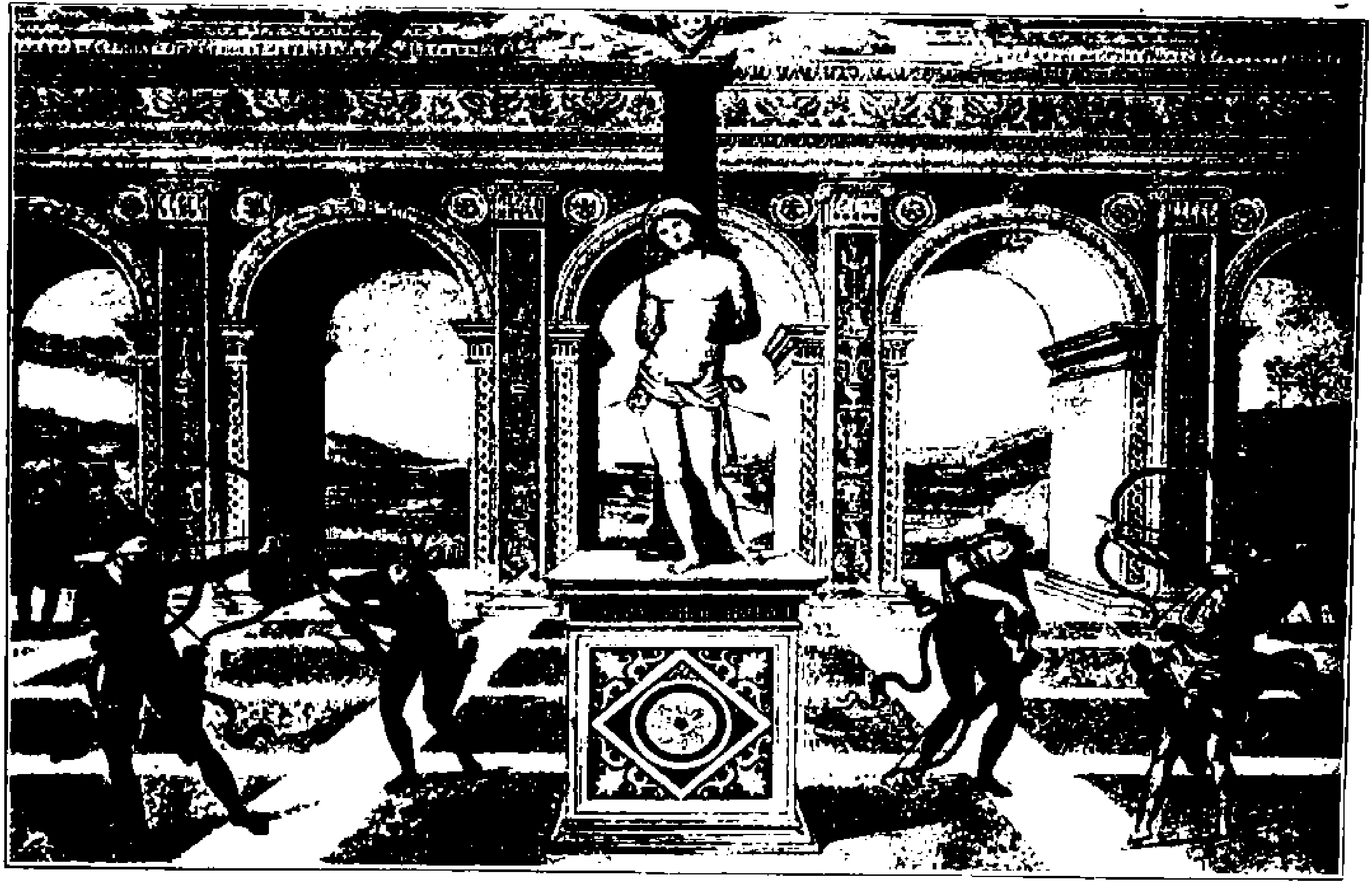
Brodgate Park, co. Leicester, 21 H. III.—Forestarii non portabunt in bosco sagittas barbatas sed pilettas.

Land in Hampshire, 100 barbed arrows annually. Hen. III.

Chettington, Salop.—One bow, 3 arrows, & 1 pale.

The Irish national weapons were the axe and the dart, but they also used the bow occasionally. The practice of archery was enforced on the Irish within the Pale by an Act of Parliament passed in the 5th Edward IV. It was provided that butts should be erected, and that everyone between the ages of sixteen and sixty should shoot on all holy days from March 1 to the end of July.[1] In 1527 Gonzalo Fernandez informs Charles V. that the arms of the Earl of Desmond's men were small bows and swords. Representations of Irish bows are rare, but they are to be seen in a drawing of a fresco on the walls of the Abbey of Knockmoy, and engraved at p. 317 of Sir W. Wilde's Catalogue of the Museum of the Royal Irish Academy. The bow is smaller than the English one, and smaller also than that shown in Albert Dürer's drawing of Irish warriors, now at Berlin, a reproduction of which faces p. 142. At Greenwich, among Henry VIII.'s other weapons, is mentioned a case of Irish arrows.

[1] Walker, *Dress of the Irish*.



CHAPTER VIII

ARCHERY TACKLE IN THE MIDDLE AGES

BY VISCOUNT DILLON

OF the actual bows and arrows used by the English soldiers at the time when these weapons held the first place in our armies as arms of offence there are few, if any, specimens. There are bows at the Tower and in the Museum of the Royal United Service Institution, recovered from the wreck of the 'Mary Rose,' and heads of arrows have been occasionally dug up in various parts of England. It is from these materials, assisted by contemporary drawings, often not carefully executed as to details, from various Acts of Parliament, and orders issued to and by the sheriffs of the various counties, that we have to reconstruct, as it were, the ancient bow and arrow.

The bows were made of yew, basil, wych elm, ash, hazel, &c., and were about 6 ft. 4 in. long. From a very early date foreign yew was recognized to be the best material; it was imported from Spain, Italy, Portugal, and other places, and on several occasions these countries are found forbidding the export of bowstaves to England.

The price of bows varied at different times. Thus, in 1341, white bows are mentioned at 12*d.* and painted bows at 1*s.* 6*d.* In 1470 Roger Staunton of Canterbury supplied 'five sheaf of arrows and twelve bows de Wythe' for 12*s.* 4*d.* Ten years later, John Symson of London receives 20*s.* for ten bows and 34*s.* 8*d.* for twelve sheaves of arrows, the red leather arrow cases costing 9*d.* and the belts 2*d.* each. In 1482, by statute, long-

bows of yew were not to cost more than 3*s.* 4*d.*, and in 1541 the bowyers of London supply fourteen bows at 8*d.* each, but these must have been very common ones, for in 1518 we again find bows at 3*s.* 4*d.*, and the sheaf of arrows and furniture at 5*s.* 4*d.* Again, in 1525, bows at 7*d.* occur; 3*s.* 4*d.* seems to have been the regular price all through the reign of Elizabeth, though in 1572 there was a petition from the bowyers of London, stating that within forty years of that date two Stillyard men, one of whom, Melchior Mellin, was then living, had got the whole trade, and raised the price from 40*s.* per hundred to 6*l.* 10*s.*, 'which was the price given by Henry VIII. for those selected for his service and yet not good, so he sent two men of science into the country where they grew, who chose 10,000, which were marked with the crown and rose and were the goodliest ever brought into England.' This evidently refers to the bowstaves as imported, and not to the finished bows.

In 1510 is mentioned part payment of a sum of 400*l.* made to the bowyers of London for making 10,000 bows, and the same year Henry VIII. applied through Piero di la Pesaro for leave for his agent to import from Venice 40,000 bows. Permission was granted for a part of this order, though it was stated to be contrary to the law, and a payment of 762*l.* 15*s.* for bowstaves to Anthony Baveryn probably refers to this purchase. Many similar instances of bows purchased abroad are to be found at this time. In 1518 the weapons for the King's Guard are mentioned at bows 3*s.* 4*d.* and furniture 5*s.* 4*d.*

In the 29th year of Henry VIII., Henry Pykman, Thomas Bolley, William Rucksted, John Snodon, and Robert Patty received 200*l.* 13*s.* 4*d.* for making 6,000 bowstaves into bows. This was at the rate of 8*d.* a piece, but H. Dicker for similar work on 758 bowstaves got only 7*d.* each. Ten years later the price paid to certain bowyers of London was 8*d.* In 1561 bowstaves were obtained from Naples at 9*l.* the hundred, and bows ready made, except the horns, at 3*l.* 10*s.*; these bowstaves were 6 ft. 6 in. long. In 1562 the following prices were

paid: for a bow of yew 2*s.* 8*d.*, bowstrings 6*d.* a dozen, livery arrows 1*s.* 10*d.* the sheaf of 24. In 1570 bowstaves 2*l.* per hundred, bows 3*s.* 4*d.* each, and arrows 2*s.* the sheaf, bowstrings being the same price as before. In 1436 Nicholas Hisham of

FIG. 96. Archer shooting at a sphere

(*'Chronicle' of John Gore; Cotton MS. Tiber. A.IV. f. 9b. Middle of fifteenth century*)

York had license to sail to Prussia with four ships in quest of woods for spears and bows, there being a scarcity of such wood in England. We are not told their actual provenance, but in 1448 the King of Portugal sent a present of 4,900 quarters of yew

for bows. Perhaps the climate of Portugal was equally favourable to the growth of the wood with that of Italy.

At the Royal United Service Institution is preserved a longbow, recovered in 1841 from the wreck of the 'Mary Rose,' sunk in 1545. At the Tower of London, also, are two of the same store of weapons. The more perfect of these in the Tower is 6 ft. 4¾ in. in length, and the following measurements will give some idea of the substance of the bows. At a distance of 1 foot from either end, which is roughly pointed, the girth is 3¼ inches, at 2 feet it increases to 4 inches, attaining a maximum of 4½ inches at about 2 ft. 10 in. from each end. At this thickest part of the bow the wood is some 1½ inch across, with a substance of 1¼ inch. The section is a flattish arc on the outside, and an almost semicircular one on the inside. The wood of which these bows are made is of close grain with knots at about four to five inches apart. There is no notch on the extremities, nor does there appear to have been any leather or other 'arming' at the part where the bow was held in the left hand.[1] The action of the sea water, while fairly preserving the substance of the wood, has left a number of small slightly raised spots about ⅙ inch in diameter, as though these parts had been less acted on by the water than the remainder of the bow. Fig. 97 is a good representation of one of these bows.

Under the date 1574, among the Hatfield Papers, is a document which affords some slight information as to the source whence these weapons were derived in Queen Elizabeth's reign. This paper states that there were then four places from which bowstaves were obtained—namely, from yew-trees which grew in or about the Bishopric of Salzburg, being conveyed down the Rhine and Main to Dort, and thence shipped to England. This trade was formerly in the hands of the Nuremberg merchants, who had a monopoly from the Emperor Charles V. In 1574 these bows were sold in London at the

[1] It is possible that these may be nearly finished staves, and not actual bows, as they are slightly reflexed, and do not appear to have been drawn, though it is curious, if this is the case, that they should have been sent to sea.

Stillyard at 15*l.* to 16*l.* the hundred. The next kind were those from Switzerland, above Basle, and their price was some 3*l.* or 4*l.* less than the first. A third kind came from the East countries, such as Revel, Dansk, Polonia, and all countries east of the Sound. These were worth at most 4*l.* to 5*l.* per hundred, being of hollow wood, and full of sap by reason of the coldness

FIG. 97
(*From the 'Roman de la Rose'; Brit. Mus. Add. MS.* 4425, *f.* 18 *b. About* 1500)

of those countries. The fourth class came from Italy and were brought over by the Venetians. These bows were of the 'principall finest and steadfastest woods by reason of the heate of the sun, which drieth up the humiditie and moisture of the sappe.'

In one of the Zürich letters from Butler to Ballinger occurs the following :—'Each bow stave ought to be 3 fingers thick

and squared, and 7 feet long; to be well got up, polished, and without knots.' These appear to have been the bowstaves in the rough, and they must afterwards have been trimmed down to the dimensions of the 'Mary Rose' examples. It may be noted that there are instances, besides that already mentioned of bows being marked with a rose and crown for Henry VIII., of such marks being placed on bows, as those made at Cambray were stamped with an eagle, while at Lille the arms of that town were painted on them. The 'Mary Rose' bows show no signs of any mark, but that may be due to their long submersion.

Sir John Smythe in 1590 mentions that the bowstrings used in his time were made of very good hemp, with a kind of waterproof glue to resist wet and moisture, and being also whipt with fine thread they very seldom broke, though in such case the archer always had ready two more prepared strings.

It is not certain that any of the arrows used in war by the English archers now exist. Sir S. R. Meyrick describes [1] an arrow in his possession as being the only old English arrow known; it was found in the moat of Clifford's Tower, York. Leland says this fortress was in ruins in his time, and from this Sir S. Meyrick assumes that the arrow must date from the fifteenth century. The place, however, was put into a state of defence in the time of Charles I., and it might therefore belong to this later period. This arrow [2] appears to be 'barrelled,' and like an Eastern one it swells at the nock, which is without horn. The head has originally been lance-shaped, with a socket for the end of the wood to fit into.

Mr. A. J. Kempe says [3] that in 1825 he saw at Cotehele, in Cornwall, some arrows which he believed to be old English. They were 3 ft. 2 in. long, and it is a curious coincidence that Hall says that the Cornish archers of the rebel party who defended the high road at Deptford Bridge in 1446, shot arrows

1 *Gent. Mag.*, vol. cii. p. 597.
2 Skelton's *Engraved Illustrations*, pl. xvi.
3 *Gent. Mag.*, vol. cit. p. 114.

'in length a full yarde.' Unfortunately, these arrows are no longer at Cotehele, nor is anything known of them.

In the Chapter House, Westminster Abbey, there is an old arrow 30½ inches long which was found some years ago in a tower of the Abbey. The nock is plain, and cut at right angles to it there is a slit which extends some way up the shaft; possibly it was intended to receive a slip of horn to strengthen the arrow at this point, though it seems too narrow for the purpose. Silk or thin thread appears to have been wound spirally round the end to fasten on the feathers, and to have been afterwards covered with pitch or some similar substance. The head has been barbed, but seems hardly strong enough for a war arrow.

There is, however, no certainty as to any of these examples, and we must therefore, so far as the wood and the feathers are concerned, rely on what we can gather from writings. With regard to the wood, the French proverb, 'Faire de tous bois flêches'—to make any shift—probably applies to English arrows as well as to others; but, judging from the statute of Edward IV., forbidding the patten-makers to use timber called aspe, it seems that this was the favourite material, at least in the fifteenth century.[1] In 1368 letters to the sheriffs specially forbade the use of green wood, which was doubtless used by some of the unprincipled arrow-makers. Dry wood was necessary to avoid warping, and the expression straight as an arrow referred to the object itself, not to its flight, which was not in a straight line.

Drayton, in his 'Polyolbion,' mentions arrows 'with Birch and Brazill peecèd to flie in any weather.' And in the play of 'Albumazar,' 1614, one of the characters says, 'I'll inform against both, the fletcher for taking whole money for peic'd arrows.'

As to the length of the arrows, it has generally been said that the war arrows were a yard long, and, taking the arrow at half the length of the bow, which was to be of the archer's

[1] Later on in this reign 'such aspe as is not fit for arrows' was permitted to the patten-makers.

height, we must suppose that only some men used such arrows. Peacham, writing in 1638, speaks of 'those arrows of a yard or an ell long which hang by the walls in many places of the north and most part of England, which the owner's grandfather or great-grandfather left behind him for a monument of his loyal affection to one of the Roses under whose conduct he served as an archer.' Both this writer and Hall rather suggest that arrows of such a length were peculiar to certain parts of England and, we may suppose, were not the invariable custom. In 'The King and the Hermit' we read of 'an arrow an elle long,' and in many other poems a like dimension is given; but allowance must be made for poetical license, and it is probable that these arrows varied in size as much as the archers themselves and their bows. In a patent roll of 12 Edward I., arrows an ell long, with steel heads and four strings to each bow, occur.

The feathers employed for war arrows were, no doubt, as a rule, those of the goose, and in a letter to the sheriffs in 1417, six feathers from the wings of each goose (except the so-called Brodoges) are directed to be collected in the towns and counties for dispatch to London. Peacock feathers are very often mentioned, and though Ascham says these were 'taken up for gayness,' and that 'many who so used them lay them down again for profit, the goose feather being the best feather for the best shooter,' still the very various owners of such feathers, and the long period of time during which mention is made of them, point to there being some better reason than mere 'gayness' for their adoption; and we know by experience that they are stiffer than geese feathers. In 1390 the will of Peter Barleburgh, a tailor, mentions such, and in the years 1420, 1436, 1442, we find wills of individuals in which these feathers are recorded. The Bursar's accounts of the Bishop of Winchester also include similar ones. William de Kyrkby in 1391 bequeaths arrows feathered with 'pennis altiliis' (domestic birds' feathers). Adam Tyldesley in 1457 leaves arrows 'pennatas cum albis plumis.' In 1475 Thomas Eme bequeaths his best sheaf of arrows, 'plumatarum cum gruibus

nigris' (black crane feathers). In the inventory of Sir John Fastolfe's effects (1459) are mentioned arrows feathered with swanne, and, no doubt, many other birds yielded their plumage for this purpose. In Edward I.'s time, as appears from the household accounts, the feathers were prepared with 'virido greco,'[1] some preparation of copper, probably to colour or preserve them from the effects of wet. But, besides the feathers being damaged, they sometimes came off altogether, as we learn from a letter of Skeffington to Walsingham in 1535, where, in an account of a recent engagement in Ireland, it is remarked that the archers' bowstrings were damaged, and most of the feathers fallen off the arrows on account of the rain.

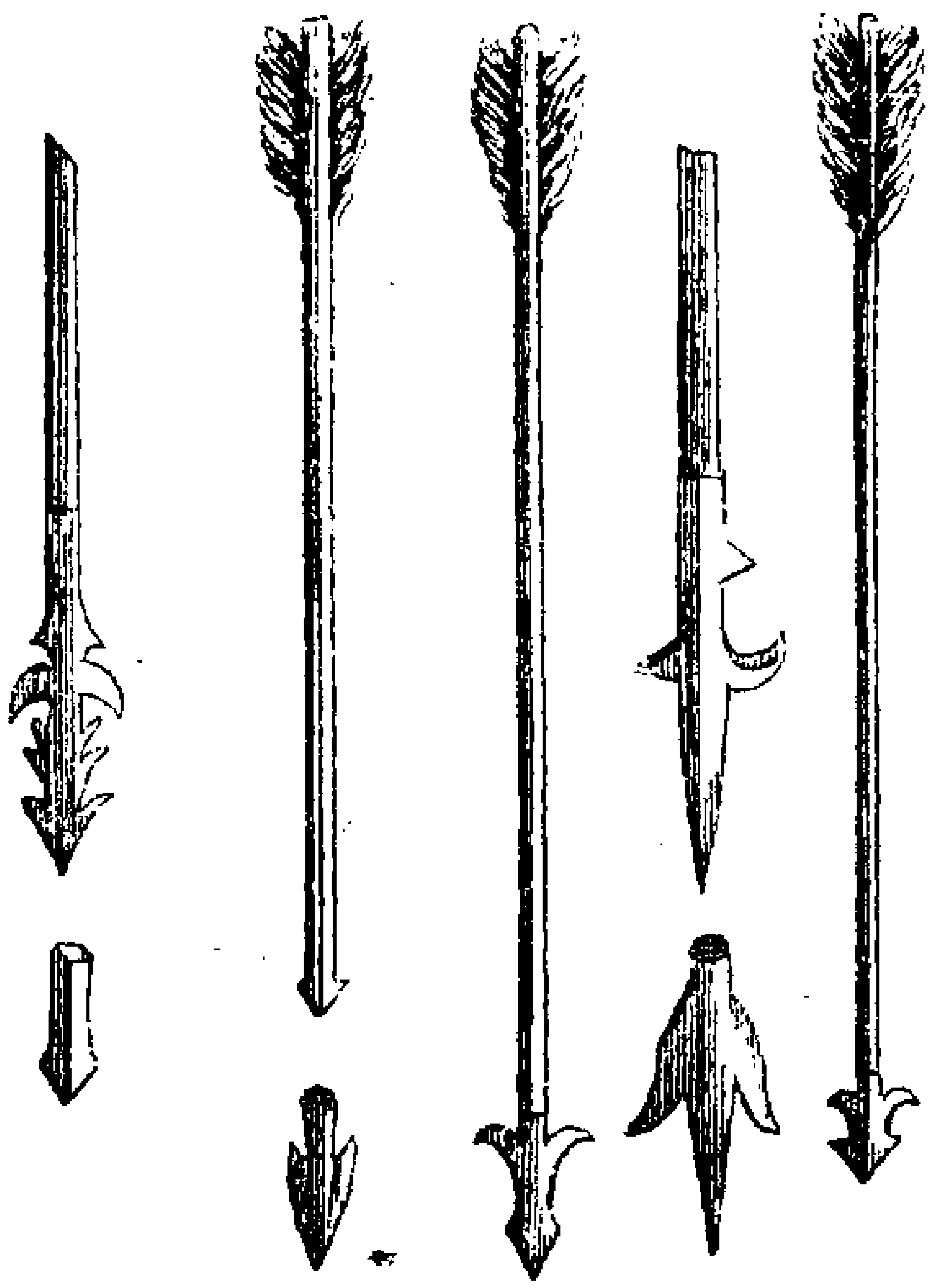


FIG. 98. Arrow-heads
(*From 'Histoire de la Milice Française'*)

Arrow-makers were necessary artificers in an army, and Henry V. took over to France in his army in 1415 six bowyers and six fletchers or arrow-makers for repair of the arms. In 1533, among the payments made in the Tower occurs, to William Tempelle, the king's fletcher, for 310 sheaves of new livery arrows at 18*d.* the sheaf, and for nocking, new feathering, new heading, and new trimming 500 sheaves of old arrows which came from the wars when the Duke of Suffolk was captain in France, at 9*d.* per sheaf. In 1522 arrow feathers are mentioned at 21*d.* for

[1] In 1456 wax, red silk and verdegresse, are mentioned for ornamenting, making and repairing the arrows of the Scotch king.

1,400. In 1580 the Borough of Plymouth paid to the fletcher for feathering of seven sheaves of arrows, 6*d.*

With regard to the arrow-heads, some few still are preserved, and a paper with illustrations on this subject will be found in vol. xvi. of the 'Journal of the Archæological Association.' In 1341 arrows, 'aceratæ,' or headed, cost 14*d.* per garb, those non-aceratæ 12*d.* At this date the white bow is quoted at 1*s.*, and the painted bow at 1*s.* 6*d.*

In 1405 a statute was passed regulating the making of arrow-heads, which were to have steel points and to bear the mark of the maker. In the Duke of Norfolk's accounts, 1462–1469, the arrow-head-maker was to supply them at five a penny, and the bows were 3*s.* each. In 1528 John Laake was arrow-head-maker to the king, and in 1530 William Lory, arrow-head-maker, was paid at the rate of 4*d.* per diem. The cuts given of arrow-heads are taken from Le Père Daniel, and are copied from the work of Ambroise Pare,[1] a celebrated surgeon who, from the time of Francis I., attended the army. He mentions the different shapes of arrow-heads in use, describes how the wounds caused by them are to be treated, and gives woodcuts of the necessary surgical instruments to be used for extracting them.

Bearing arrows are mentioned in the Earl of Northumberland's expedition to Terrouenne, 5 Henry VIII., thus :—'Longe arrowes like standarts with socetts of stell for my Lord's foutemen to bere in their hands when they ryn with my Lorde.' They also occur in the Lord Mayor's proclamation about shooting in Finsbury Fields in 1557.

The archer generally carried his arrows in a quiver slung over his shoulder or at his waist, but when in action some at least of the arrows were placed either lying on or sticking in the ground at his feet, or else stuck in his belt. The archer himself is always shown as standing with his feet apart, and the right hand is seldom above the level of his breast. Ascham speaks of the archer having his hair short, and in connection

[1] *La Méthode de traicter les Playes.*

with this we may remember Ollivier de la Marche, who mentions a Greek ambassador at the court of the Duke of Burgundy in

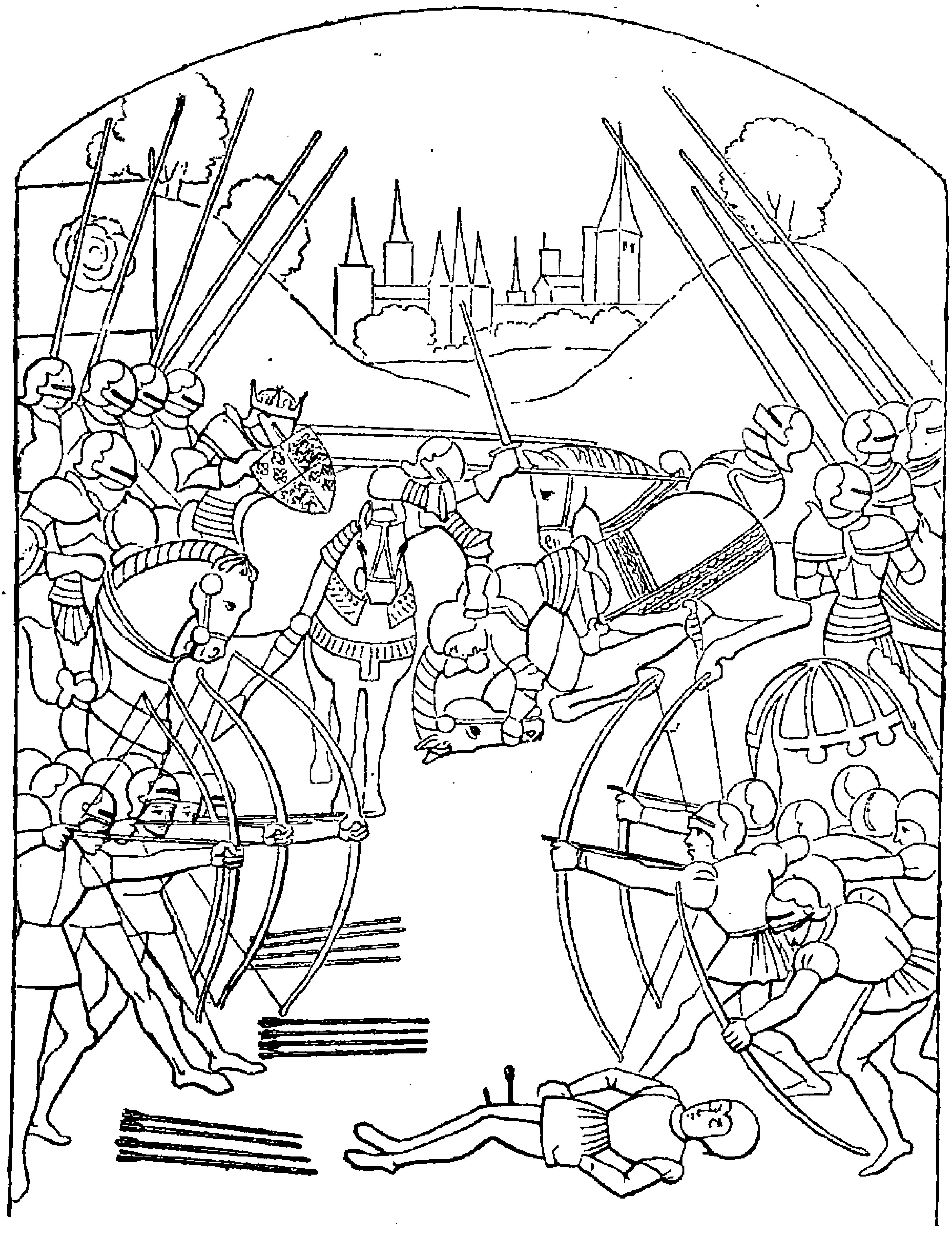


FIG. 99. Battle of Tewksbury

(From a contemporary MS. 'Archæologia,' vol. xxi.)

1442, who, shooting with a bow on horseback, took the pre caution to put his beard in his mouth '*pour doute de la corde.*'

That English bows and tackle were valued highly abroad we have many proofs. Gaston Phœbus, Count of Foix (1388), himself an accomplished archer, praises the English bow, and bids would-be archers learn from our countrymen. His description of what a bow should be is as follows :—It should be of yew or of boxwood, 70 inches in length between the points of attachment for the cord, and when strung the centre should be $7\frac{4}{5}$ inches from the cord, which should be of silk, as that is harder than hemp or any other material. The arrow should be $28\frac{1}{3}$ inches long in the stem, with a barbed head of five fingers in length and four fingers across the barbs.

In 1400 the accounts of the Bailly of Hainault mention English bowstrings as costing more than those of Valenciennes, and in the next year we find the English Queen presenting two English bows to the Queen of France. In 1426 the Duke of Burgundy paid 40 livres to a man who had been sent into England to get bows for him, but without letting it be known. In a French poem of 1480, the writer expresses a wish as an archer to have English bows of fine yew, and straight, well-metalled arrows. As late as 1597, a warrant was issued to allow the servant of the Landgrave of Hesse to transport 100 bows, 2,000 bowstrings, 3,000 arrows without payment of custom.[1]

The English archers are often referred to by foreign writers, and especially by the Venetian ambassadors in their reports to the Seignory. In 1497 Francesco Capello's secretary speaks of the long-bow as being the weapon of the English, as the pike was that of Germans. Giustiniani, in 1519, says the English infantry was supposed to amount to 150,000 men, whose peculiar weapons were the long-bow, arrow, sword, and two stakes —one before and one behind—with which they made their palisadoes or stockade, but all their prowess was in the bow. In 1531 Faliero says of the English infantry, 'although they fight in the old fashion with bow, sword, and buckler, celata, and a two-pronged iron stake to resist a charge from the

[1] *State Papers*, Dom., vol. cclxiv.

enemy's horse, yet are they beginning to use harquebuses and artillery.'

The stakes referred to by Giustiniani and Faliero were the improved form of the Agincourt device ; but judging from the payment in 1529 to Richard Rowley, blacksmith, for 2,500 sockets, rings, and staples of iron to garnish archers' stakes, and 5,000 archers (stakes) ready garnished with heads, sockets, rings, and staples, 6*l.* 13*s.* 4*d.*, the sixteenth-century appliance was a much more serious affair than the earlier idea. Archers' stakes also occur in the equipment of ships, but these must have been intended for landing parties.

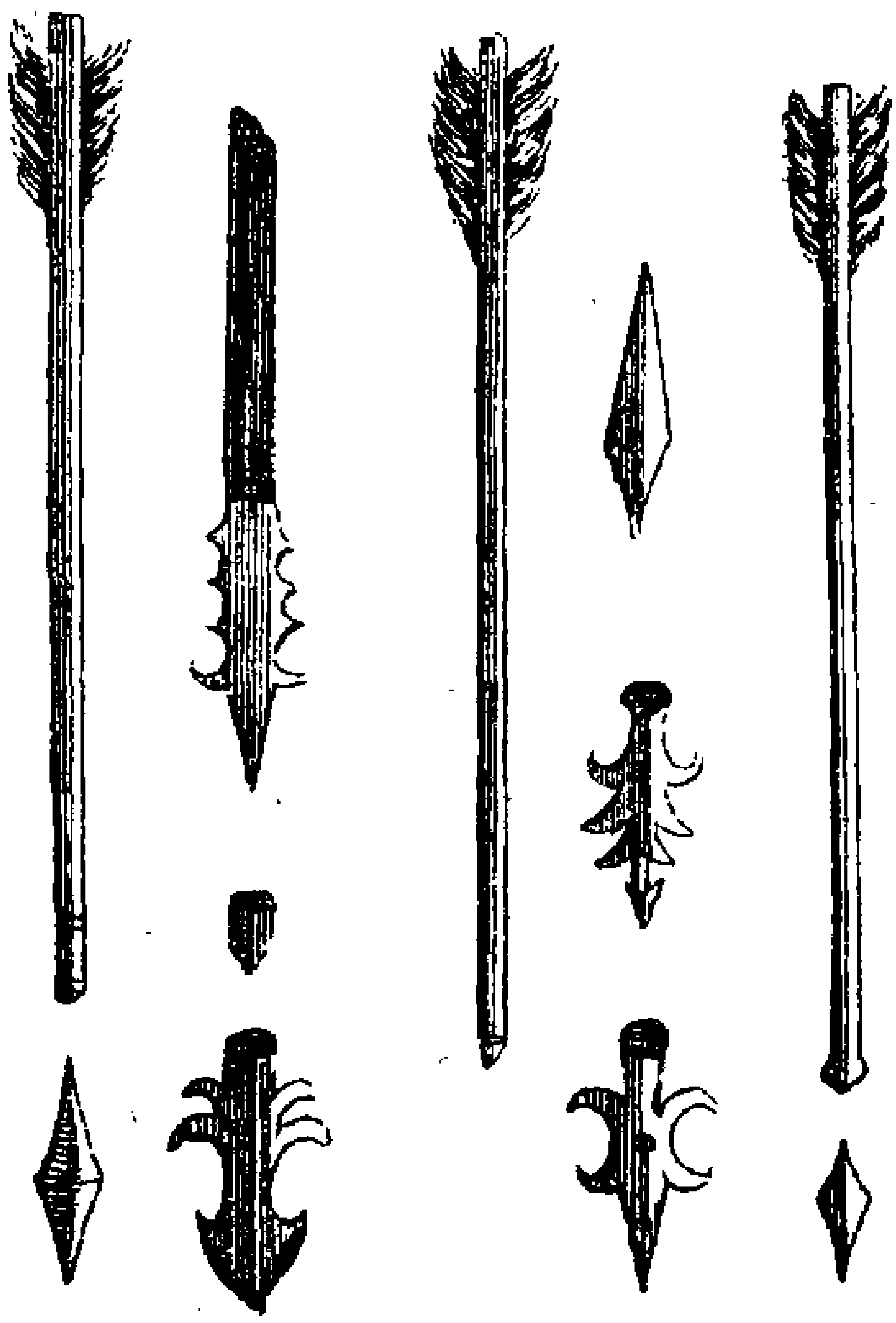


FIG. 100. Arrow-heads
(*From 'Histoire de la Milice Française'*)

An important part of an archer's equipment was a maul, or heavy mallet of lead, having iron rings round the ends of the head, and a handle five feet long. Some of these mauls must have been formidable weapons, as, at the 'Battle of the Thirty,' in 1351, Bellefort, one of the English side, wielded one weighing 25 lbs.[1] They were carried slung on the back. Ascham, speaking of archers, says : 'When they shall come to hande strokes, (he) hath ever redy, eyther at his backe hangyng, or els in his next felowes hande, a leaden maule, or suche lyke weapon, to beate downe his enemyes withall.'[2] Le Père Daniel cites some MS. memoirs in the King's Library, Paris, to prove that mauls were used in about 1520, but from the above extract

[1] Dargentre, *Hist. de Bretagne.* [2] *Toxophilus.*

from Ascham, and from an MS. treatise on the equipment of archers in Queen Elizabeth's reign, quoted by Grose, it is clear that they were in use at a later date. It is singular that the Laplanders represent the god Thor with a bow in one hand, and a mallet or maul in the other.[1]

In 1533 the Earl of Derby directed the Abbot of Whalley to have twenty of his tenants put in readiness as archers, well harnessed after the manner of the country, in white jackets with 'my bage of the leggis of Man' of red cloth on the breast and on the back. Of course the ordinary English soldier, both then and for many generations previously, had worn the red cross of St. George in a similar manner (fig. 101). Hall states that Henry VIII. had at the siege of Terrouenne, in 1513, 600 archers of his guard all in white gaberdines and caps.

In 1566 we find the following prices for the parts of an archer's outfit:—Bow and arrows 6*s.* 8*d.*, a steel cap 4*s.*, shoes 2*s.*, coat 12*s.* 4*d.*, hose 8*s.*, sword and dagger 8*s.*, shirt 4*s.*, doublet 4*s.* In 1567 the city of Liverpool supplied archers dressed in 'blue watchet cassocks of Yorkshire cloth, garded or ornamented with two small gards stitched with two stitches of blue apiece, a red cap, a buckskin jerkin, and armed with a very good yew bow and a sheaf of arrows in a case.' In 1577 the men from Yorkshire were equipped at the following prices: —Clothes 37*s.* 2*d.*, yew bow, arrows and case 3*s.* 4*d.*, coat of plate 13*s.* 4*d.*, sword, dagger, and girdle 8*s.*, shooting glove, bracelet and string 1*s.*, skull and Scottish cap to cover it 3*s.* 4*d.*

Sir John Smythe in 1591 advises that archers using no vambraces, but certain strips of cere cloth or mail within their sleeves, to defend the cut of a sword, might through the smallness of their sleeves easily draw and shoot without the string hitting upon any part of their sleeve, but only upon their bracer. He also advises that archers should either wear 'ilet-holed doublets,' that will resist the thrust of a sword or dagger, covered with some trim and gallant kind of coloured cloth to the liking of their captains, with their sleeves striped with

[1] Moseley's *Essay on Archery*, p. 267.

certain narrow strips of such cloth to resist the cut of a sword, or else jacks of mail quilted upon fustian to resist a blow or a thrust, of a considerable length, and the skirts not too long.

A fair idea of the dress and arms of archers may be gathered from the cuts taken from various MSS., as the archers would probably be depicted as they appeared at the time the illumination was executed, though in fig. 95 the artist has introduced composite, probably Turkish, bows.

It should be remembered that for the appearance of the archer of Froissart's Chronicles we must not trust to the illuminations of his works, as most of them, as seen in the British Museum and elsewhere, date at least some hundred years later than the events recorded in them. But from the text of these Chronicles, and from the various orders for supplies of soldiers, we may gather a fair idea of the archer of Créçy and Poictiers. He bore his bow and arrows, the latter in a quiver hanging at his waist or over his shoulder, with a sword, or perhaps an axe, at his waist. For armour he had an iron scull or, as at Agincourt, a wicker-work head-piece, with iron cross-bands on it. Perhaps, also, a shirt of mail or some piece of plate armour, the spoil of a former battle; but the active life he led would forbid any great weight being added to his equipment. When in action he would further ease his movements by loosening the points or laces attaching his hose to his body garment, and thus free from the constraint of his clothes would be ready at the proper moment to rush in and continue the fight, or rather slaughter, with his sword, axe, or heavy leaden mallet, and obtain from his richly-armed foe 'egregious ransome.'

FIG. 101. From the 'Departure of Henry VIII. from Calais,' 1544

(*From 'Monumenta Vetusta. Pictures at Cowdray*)

For the appearance of the archer in the latter part of the

fifteenth century the best authority is the fine MS. history of the life of the Earl of Warwick, by John Rous, now Cott. MS. Julius E IV. Art. 6 in the British Museum, two of which are reproduced on pages 113 and 117. Here we see many representations of soldiers of all sorts, and especially archers, and as the MS. was written and drawn before 1487, the authority is a most excellent one. For Henry VIII.'s time the engravings of the ancient pictures at Cowdray—now unhappily destroyed (see pages 118, 135, 146)—will furnish many examples of the English archer's equipment, and in the picture of the Battle of the Spurs at Hampton Court—as also in the bas-relief representing the meeting of Henry VIII. and Francis I. at the Field of Cloth of Gold, still existing at Rouen, of which a cast may be seen at the Crystal Palace—we have the appearance of a mounted archer of the time.

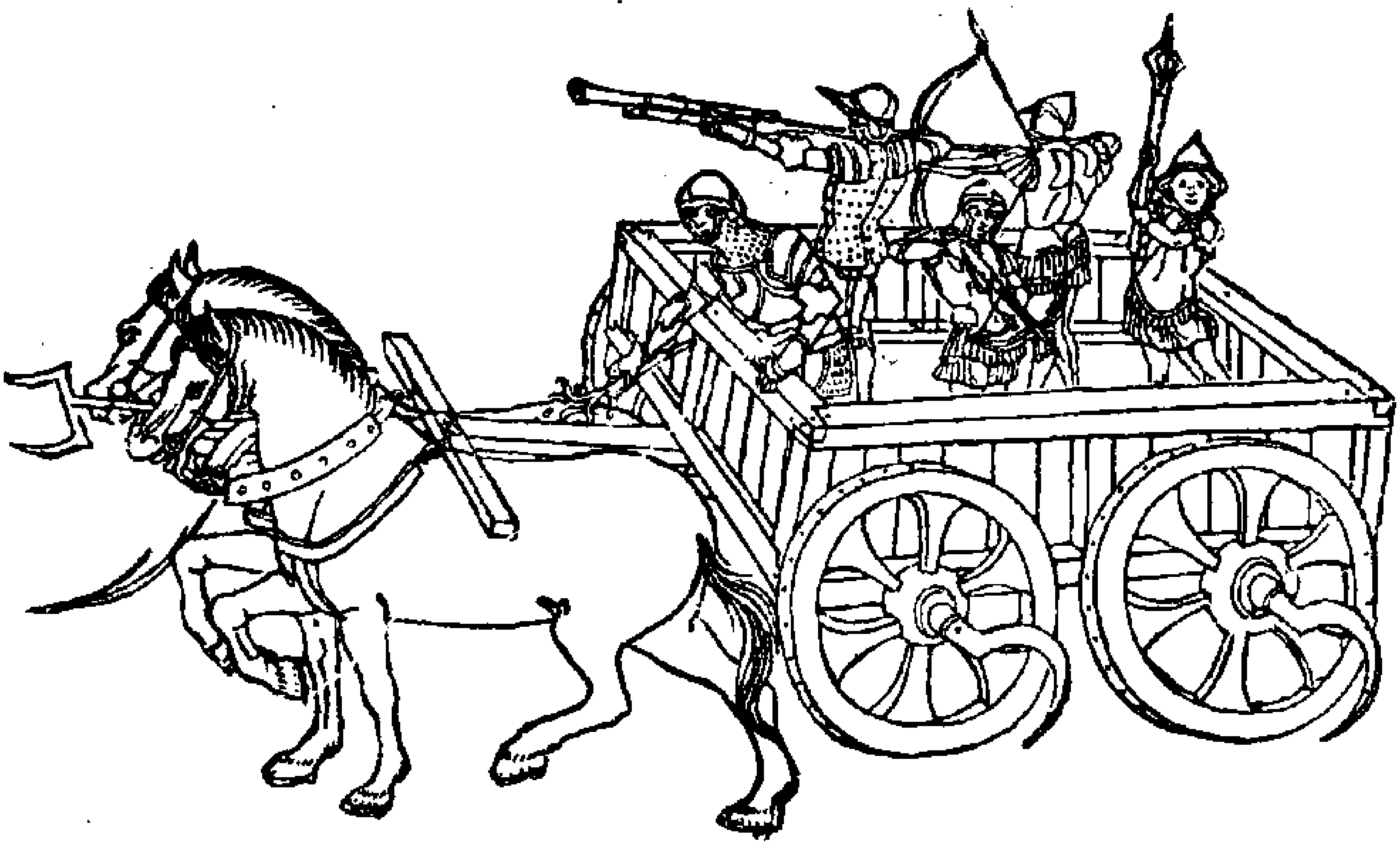


FIG. 102. War chariot, with archer, crossbowman, and hand-gun
(*From 'Vaturius de Re Militari,'* 1483)

CHAPTER IX

THE DECADENCE OF ARCHERY

BY COLONEL WALROND

IT is difficult to fix the exact time when the decadence of the bow as a military weapon begins. Looking at it from the present point of view, the answer to such a question would be that the introduction of hand firearms was the death-blow to the use of archery in war, and to a certain extent this is so; but it was a long time before even the equality, much more the superiority, of weapons of fire was acknowledged by the English leaders of the period. Quite two hundred years elapsed after their introduction ere the bow was finally ousted from its position as the chief weapon of England.

At first the bow held its own, and down to the end of the sixteenth century the contest was fairly equal. The authorities

seem to have been equally divided as to the relative efficiency of the bow and the hand-gun, the two weapons being used side by side, and in much the same proportion, until the last ten years of the century, when the bow lost ground rapidly. The practice of archery being neglected made it more and more difficult to obtain skilled archers, and as their quality deteriorated, greater attention was paid to teaching the use of the hand-gun, so that by the early part of the seventeenth century the bow had nearly disappeared.

In these days it may at first seem strange that any doubt could have existed as to which was the more efficient weapon ; but it must be remembered that the early hand firearms were very imperfect, the manufacture of gunpowder also being little understood. Even at the beginning of the present reign the musket could not be relied on to hit a man a hundred yards off, so that it really is not to be wondered at that the bow—looked upon by all Englishmen as pre-eminently their own weapon, backed up by the usual dislike to any change, and contending against a primitive and ill-made arm—should for a long time have held its own. Economy and convenience were also in its favour, as it was cheaper, and could be effectively used by less highly trained men.

The hand-gun was in general use on the Continent much earlier than it was in England, and though efforts had been made by the French kings to encourage archers—important privileges being conferred upon them—the result was not satisfactory. Foreigners never took kindly to the bow ; when, therefore, hand firearms were introduced, they adopted them eagerly as weapons that would neutralise our superior physical strength, the strong and weak man being equal with the hand-gun. Consequently we find, as early as 1476, 10,000 harquebuziers present at the battle of Morat,[1] and at the beginning of the reign of Henry VIII. the bow was fast disappearing among Continental troops.

In England the practice of archery had been encouraged

[1] Philip de Comines.

and enforced from a very early period by all possible means, various statutes having been enacted from the time of

FIG. 103. Death of S. Sieur de Roussilon in the Forest of Buch
(*Royal MS.* 16, *F* III, *f.* 11. *Fifteenth century*)

Edward I.,[1] compelling all males under a certain rank to shoot from the age of seven: obliging merchants trading with

[1] Statute of Winchester.

countries from which bowstaves were imported to bring into England in the same ship with their goods for every ton of merchandise[1] four, and for each tun of Malmsey or Tyre wine,[2] ten bowstaves of good and sound wood: allowing bowstaves of 6 ft. 6 ins. in length to pass free of duty:[3] and ordering butts to be kept up. The first of the many Acts passed in Henry VIII.'s reign with respect to archery required every male (except ecclesiastics, judges, and people possessed of land of the value of 200 marks a year) over seven and under the age of sixty, to practise archery, the use of crossbows and hand-guns being forbidden.[4]

Hand-guns were first introduced into England about 1446. The earliest mention of them seems to be in the roll of purchases for Holy Island, in the county of Durham, and in that year there appears an entry of

Bought ii handgunnes de ere iiii s.
Do. Gonepowder iiii s.[5]

but from the words 'de ere' (or of brass), it seems doubtful if these were what we should call hand-*guns*: more probably they were hand-*cannons*. In 1471, however, Edward IV. landed at Ravensburgh Castle in Yorkshire, having among his troops 300 Flemings armed with 'hange gunnes';[6] yet there are few signs of the English faith in archery being shaken during the reign of Henry VIII.

The first misgiving as to the efficiency of the bow against hand firearms seems to have occurred in 1511, for Lord Herbert of Cherbury, in speaking of the discussion in the Council as to going to war with France, makes the party opposed to war, after reciting our former victories against superior numbers, argue thus:—'Stands it with reason of war to expect the like success still? Especially since the use of arms is changed and

[1] 12 Ed. IV. Penalty 6*s.* 8*d.* for each bowstave deficient.
[2] 1 Richard III. Penalty 13*s.* 4*d.*
[3] 1 Richard III.c. 2.
[4] 3 Henry VIII. c. 3.
[5] *Archæologia*, vol. xxii.
[6] Grose, *Mil. Ant.*

for the bow, proper for men of our strength, the caliver begins to be generally received, which, besides that it is a more costly weapon, requires a long practice and may be managed by the weaker sort.'[1] And though written many years later, probably he had some authority for making the above statement.

In 1512 an expedition of 10,000 men was sent to Guyenne, half being archers who also carried halberds, which were placed on the ground while they shot. Of these, the same author says: 'So that, notwithstanding the use of caliver or hand-gunnes, I cannot but commend the wisdom of that time, it being certain that when he that carries the caliver goes unarmed,[2] the arrow will have the same effect within its distance that the bullet and can again for one shot return two. Besides, as they used the halbert with the bow, they could fall to execution on the enemy with great advantage.'[3] This expedition returned without doing much fighting, so we do not know if the halbert was successful in 'execution' or not.

The victory of Flodden in 1513 was in a great measure due to the archers, as the Scots gave way to avoid the storm of arrows poured upon them, which enabled the other troops to charge and break their ranks, the Scottish king himself receiving an arrow wound; the Earl of Surrey—who commanded on this occasion—received, among other rewards, the right of bearing on the bend of his own arms a demi-lion of Scotland, pierced through the mouth with an arrow. Partly, perhaps, on account of the victory of Flodden, a fresh statute was passed in 1515 for enforcing the use of the bow, and increasing the qualification for using a crossbow or hand-gun to 300 marks a year,[4] subsequently raised to 100*l.*[5] In the same year, statutes were sent to Ireland providing that all merchants coming from England into Ireland should with every twenty pounds 'worth of wares' bring a specified quantity of long-bows and arrows

[1] *Life and Rayne of Henry VIII.*
[2] i.e. without armour.
[3] *Life and Rayne of Henry VIII.*
[4] 6 Henry VIII. c. 13.
[5] 14 Henry VIII. c. 7.

to be sold to the king's subjects. It is stated that archers should be the 'principal strength of footmen in time of necessity,' and that in default of long-bows divers of the king's subjects apply themselves to Irish archery, as using Irish bows (which were shorter than the English long-bow) and Irish spears, 'which induceth to Irish disposition.' [1]

At the Field of Cloth of Gold each king had a guard of sixty archers on horseback, and it is significant of the estimation in which English archers were held that, in the treaties made in the early part of the reign of Henry VIII., he always undertakes to provide a specified number of archers: thus, in the treaty of August 1514, he agrees, under certain contingencies, to provide 10,000 archers.

In 1537 the patent of the Honourable Artillery Company was granted, making Sir Cristopher Morres, Kt., and others, overseers of 'the science of artyllary that ys to vyt, for long bowes, cross bowes, and handgunnes.' Among other privileges, it provides that they shall not be responsible for anyone accidentally shot while they are practising, if the archer before shooting has called out 'faste,' a word still in use at meetings to restrain ardent shooters from crossing over too soon.[2] Further patents were granted to the Artillery Company by James I. in 1605, and Charles I. in 1633, and in these patents power was given to replace the Finsbury Fields in the state they were in in the reign of Henry VIII., the owners having put up fences, &c., which interfered with the archers' marks. It may be mentioned here that the right to practise archery was not confined to the fields near London alone, as in 1583 there is a petition to the Council from the inhabitants of Sittingbourne, Kent, who complain that N. Fynche, of Faversham, and S. Pardage, of Sittingbourne, obstruct them from practising archery in the Baforde field.[3]

[1] Hist. MSS. Com. 9th Report.

[2] *State Papers*, Dom. vol. ccxiv. No. 10 (1590) is a grant of a pardon to E. Seabourne for killing H. Reignolds by chance with an arrow while practising at 12 score pricks.

[3] *State Papers*, Dom. vol. cxxv.

An act passed in 1541 proves the value placed at this time on the long-bow.[1] It provides that everyone over seven and under sixty (except ecclesiastics or judges) shall practise with the bow: that parents and masters shall teach their children and servants to shoot, and shall have for all males over seven and under seventeen a bow and two arrows, and for those above that age a bow and four arrows, under a penalty of 6*s.* 8*d.*; all male servants, over seventeen and under sixty, who neglected

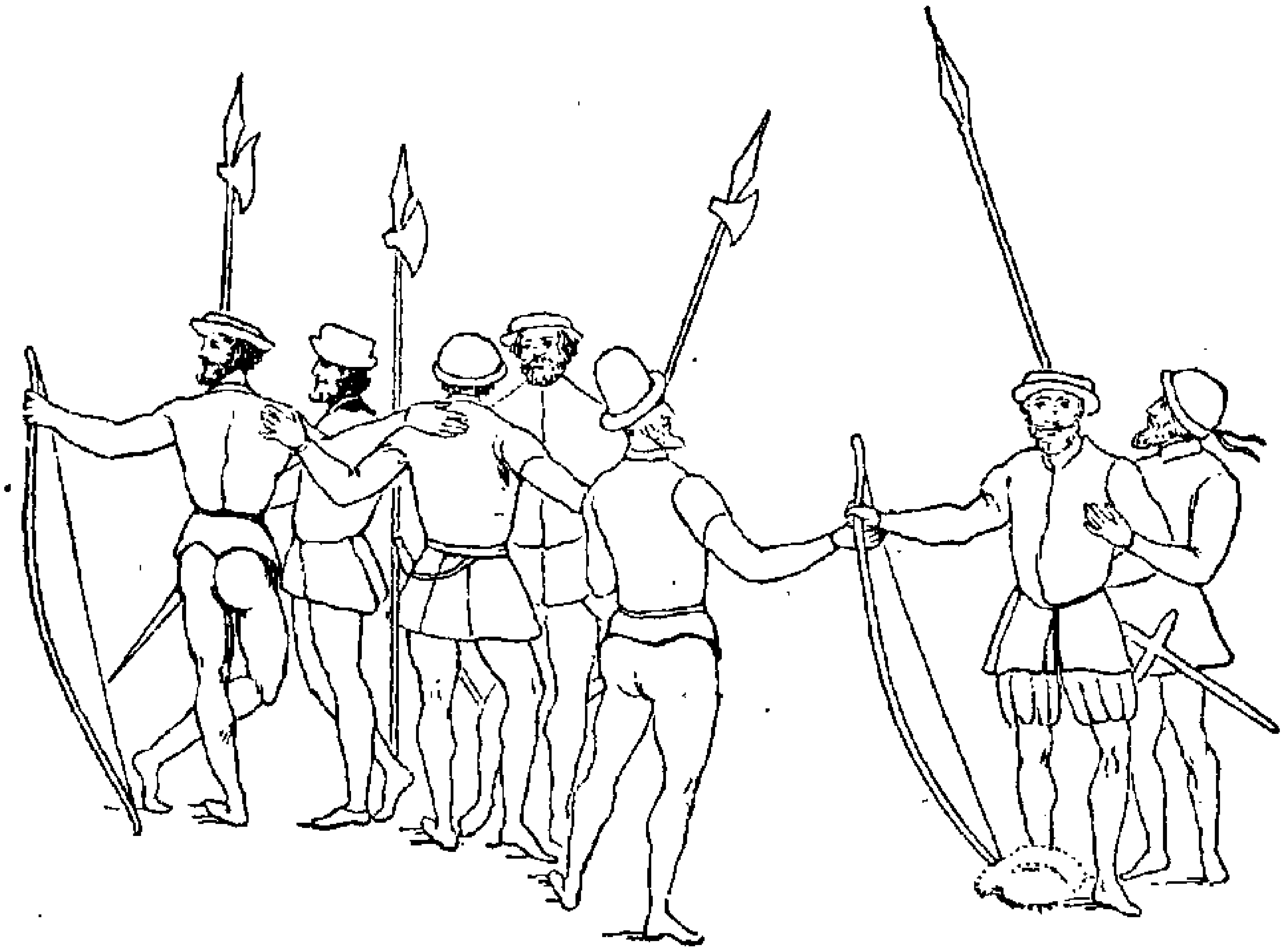


FIG. 105. Group, from 'The Encampment of the English Forces near Portsmouth,' 1545
(*From 'Monumenta Vetusta'*)

to provide themselves with a bow and four arrows were to be fined 6*s.* 8*d.*; no one under twenty-four was allowed to shoot at a standing mark, except for rovers, and then they were to change places at each shot, under a penalty of fourpence a shot; while all above the age of twenty-four were forbidden to shoot at less than eleven score yards, under a penalty of 6*s.* 8*d.* Butts were to be put up and maintained in every parish, so that

[1] 33 Henry VIII. c. 9.

shooting might take place on holy days, and at other times. No one under seventeen was to use a yew bow, unless his father or mother possessed lands of the annual value of 10*l.*, or he himself had goods to the value of 40 marks. Bowyers were to make four common bows of 'elme, wyche, basil, ashe,' or other wood for every one of yew; or, if near London, two such bows for every one of yew. Bows were to cost from sixpence to a shilling, and no yew bow more than 4*s.* 4*d.*, under a penalty of 20*s.* Bowyers were also always to have a specified number of bows ready, and were liable to fine in default. Aliens were not allowed to practise archery, or export bows and arrows, under pain of forfeiture, and in default of paying such fine as might be imposed upon them, imprisonment.

That the former statutes on the subject were neglected, and some such statute as the foregoing was required, appears evident from a contemporary writer, who, after praising the bow, says: 'O what cause of reproach shall the decay of archers be to us now living? Yet what irreparable damage, either to us or other, in whose time need of similar defence shall happen, which decay, though we already perceive, fear and lament, and for restoring thereof cease not to make ordinances, good laws and statutes: yet who effectually putteth his hand to continual execution of the same laws and provisions? or beholding them daily broken, winketh not at the offenders.'[1] Subsequent writers also frequently lament the decay of archery.

At the battle of Pinkie Cleugh in 1547, bows were used on both sides, and the English archers contributed much to the victory.

In the year 1557 an Act was passed repealing the Statute of Winchester (13 Ed. 1), and fixing the number of different arms that should be provided by persons possessed of various incomes and property; with other arms owners of estates of 1,000*l.* a year or upwards were to have thirty long-bows and thirty sheaves of arrows, the number gradually decreasing till owners of goods to the amount of 20*l.* are reached, who were

[1] Sir Thomas Elyot, *The Governour*.

to have one long-bow and one sheaf of arrows. Hacquebuts, in addition, were to be provided by owners of 200*l.* and upwards; and the best evidence of the estimation in which the long-bow was still held, showing that at this time the two were considered of equal value, is that it was expressly provided that no one should be obliged to have or provide the former weapon at all, as long as one long-bow and one sheaf of arrows was kept in place of each hacquebut required by the Act.[1]

In 1557 Giovanni Michiel, in his report on England to the Venetian Senate, says:—

> But, above all, their proper and natural weapons are the bow and arrows, of which so great is the number, owing to the general use made of them by all sorts of persons without distinction of grade, age, or profession, that it exceeds all belief. This does not proceed from choice, but also from the obligation imposed generally on all heads of families to provide each individual of his household with them, including all the boys when they come to the age of nine years—all for the sake not only of suppressing every other exercise, but with all diligence to increase this one, in which the English place all their strength and all their hope, they to say the truth being most expert archers, so that they would not yield to any other people more trained and experienced than they are; and such is their opinion of archery and their esteem for it, that they prefer it to all sorts of arms and to harquebuses, in which they trust less, feeling more sure of their bows and arrows—contrary, however, to the judgment of the captains and soldiers of other nations. They draw the bow with such force and dexterity at the same time, that some are said to pierce corslets and body-armour, and there are few among them, even those that are moderately practised, who will not undertake at a convenient distance, either aiming point blank or in the air (as they generally do that the arrow may fly further), to hit within an inch and a half of the mark.[2]

The above extract is given at length, as it may fairly be considered an impartial opinion of English archery at the time.

In the reign of Elizabeth, out of every hundred men

[1] 4 & 5 Philip & Mary, c. 2. [2] *State Papers*, Ven. vol. vi.

twenty were archers, forty harquebuziers, the rest being armed with halberds or bills and pikes.[1] Numerous instances occur of the use of archers, and mention of archery matters is frequent. For example, in 1560, 3,500 bowstaves were purchased for 850*l.*; three years later, 500 bows and 1,000 sheaves of arrows are sent to Newhaven[2]; instructions to levy archers for the defence of the Borders are common.[3] In Ireland in the expedition against Shan O'Neil bows were used with much effect on both sides. Shan O'Neil himself, writing in 1565 to the Cardinals of Lorraine and Guise, tells us of a curious archery feat; for he says: 'When I was in England I saw your noble brother, the Marquis d'Elbœulf, transfix two stags with a single arrow.'[4] In 1569 the efficiency of archers on horseback seems to have deteriorated, as the Earl of Sussex, writing from York, says: 'of the horse sixty-five all archers and therefore unserviceable.' Next year he says: 'it had been better that most of the shot had been good archers than so ill-furnished arquebuziers.'[5] In 1567 endeavours were made to form corps of harquebuziers in the coast towns from Plymouth to Newcastle, and in order to further this the harquebuziers were to have the rather doubtful privilege of 'liberty to shoot at various fowls with respect of time and place, and *without hail shot*'; but also the more substantial ones of being free of the towns; free from all town rates, tenths, fifteenths, and subsidies, from all musters except their own, and to receive four pounds a

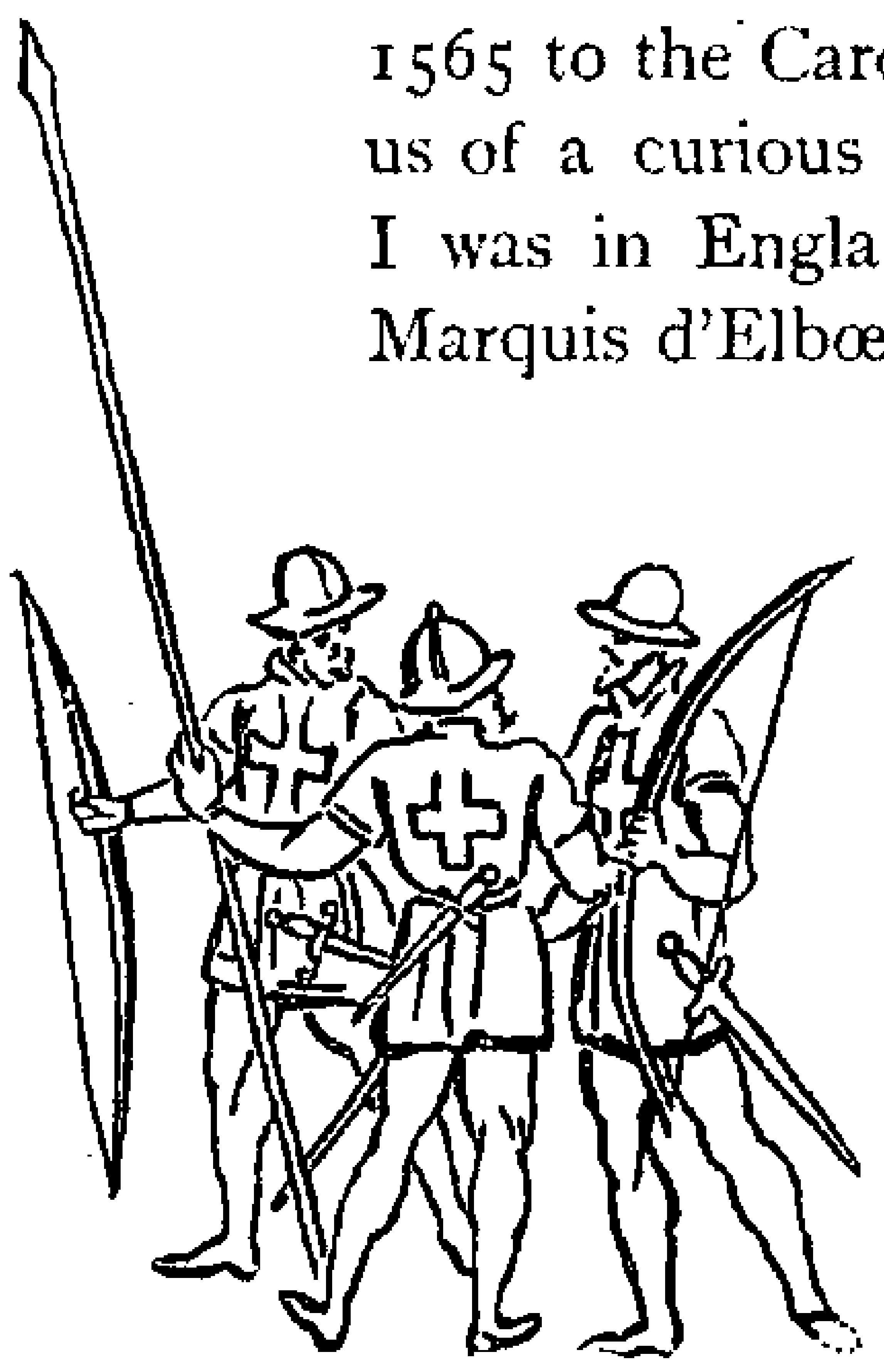


FIG. 106. Group, from 'The departure of Henry VIII. from Calais, 1544'

(*From Pictures at Cowdray, 'Monumenta Vetusta'*)

[1] Grose, *Mil. Ant.*
[2] Harl. MS. 309.
[3] *State Papers*, Dom. vol. cclix.
[4] Froude: *Hist. Eng.* vol. viii.
[5] *State Papers*, Dom. vol. cclxxiv.

year, for which they were to provide a good substantial harquebuze with a compass stock of such bore that every three shots may weigh one ounce, flask, touch-box, sword and dagger, jerkin and hood.[1] The encouragement of archery was, however, not neglected, as in 1571 an Act was passed[2] which recites that one of the causes of the decay of archery is the excessive price of bowstaves, and orders that the 12 Edward IV. shall be enforced, directing half the penalty for default to be paid to informers, the failure of the Act being ascribed to the fact that formerly the whole of the penalty went to the Crown. The merchants of the Steelyard remonstrated against this, setting forth the difficulty of procuring bowstaves;[3] and possibly the interesting report quoted in a former chapter (p. 124) as to the countries from which bowstaves were imported was ordered in consequence, as well as a return of the number of bowstaves imported into England in 1772, from which it appears that there were brought from 'Embden' 1,950 staves, from 'Suningborge' 1,975, from 'Danske' 3,060, from 'Hambroughe' 2,000, and a large number (not named) from 'Dorte,' which were brought down the Rhine, 'and the bowestaves which are brought from thence are the beste stuffe and have the name of Cullyne (Cologne?) staves.'[4]

In 1572 also the statutes for keeping in repair the butts were enforced with increased activity, and many entries are to be found in the accounts of various parishes under this head, extending well into the seventeenth century. As a rule, these entries simply refer to putting up and repairing the butts, hauling timber, earth, &c.; but occasionally village ambition takes a flight, and such an entry as this is found: '1576. Item making a Turk for shott, boards nails and making xviiid. item the paynter xiid.'[5] In 1577 Mr. Highfield, in a note to Lord Burleigh, strongly advocates the use of archers, both on foot and on horseback.[6]

[1] *State Papers*, Dom. vol. xi.
[2] 13 Eliz. c. 14.
[3] *State Papers*, Dom. vol. lxxxiii.
[4] Hatfield MSS. 214.
[5] Hist. MSS. Com. 10th Report.
[6] *State Papers*, Dom. vol. cxiv.

In 1588 the general muster took place to repel the Armada, and 'An abstract of the Certificates returned from ye Lieutenants of the able and furnished men in the several counties . . . and how they were soarted (*sic*) with weapons,'[1] gives us information as to the number of men armed with bows and hand-guns respectively at that time in the different counties. The various sorts of hand-guns, namely calivers, muskets, and harquebuzes, being added together for comparison, it appears that, of the 6,000 trained men supplied by London, none were armed with bows, and of the untrained 4,000, 800 only were archers. Of the counties, Huntingdon, Somerset, Wilts, and Cambridge also furnished no men armed with bows. Generally the proportion is from one-fifth to one-half; but in Oxfordshire and Buckinghamshire bows predominated. With respect to the untrained men, as a rule the proportion of archers is larger than among the trained; but the abstract is not perfect, for in some instances particulars are wanting, in others they are illegible, and several counties are omitted.

It is now time to notice an interesting controversy that took place as to the relative efficacy of the various hand fire-arms and the bow. Possibly portions of it have been lost, but several books and manuscripts remain which give us a very fair idea of the points for and against both weapons. There is a curious similarity in this discussion to that which arose many years ago about flint and percussion arms, and more recently on the substitution of breechloaders for muzzleloaders—on the one side a rooted objection to any change, and on the other a perhaps too zealous advocacy of the new weapon.

The principal disputants were Sir John Smythe,[2] who had served in the Low Countries under Alva; Humphrey Barwick,[3] who describes himself as 'Gentleman, Soudier, Captaine et encor plus aultre'; Sir Roger Williams,[4] a distinguished officer who defended Sluys; and Mathew Sutcliffe.[5] It is evident that

[1] Harl. MS. 168. [2] *Certain Discourses*, 1590, and *Certain Instructions*, 1594.
[3] *A Briefe Discourse*, 1594. [4] *A Briefe Discourse of War*, 1590.
[5] *The Practice, Preceedings and Laws of Arms*, 1593.

many soldiers and sailors who had seen the effect of hand firearms in the hands of well-trained men abroad did not hold a high opinion of the value of the bow. As early as 1565 J. Montgomery writes :—

> I am the boulder to write so much for that I myself have seen the experience thereof upon the seas at sundrie encountres with some of the French Shippes wishinge to God the said harquebuze and currier were as well used occupied and had in practice, some good number of them, here in ower countrie of Ingland amongst ower Inglishe nacion as ower Inglishe bowes bee, and as in Spaigne, Fraunce and other places they are : which would be a merveylous good strength for the realme, fearful to the inimie withoute and profitable to us within.[1]

Styward also says, writing in 1584, 'and although archers bee not as heretofore they have beene, yet it is good to showe you that having archers you must place them as afterwards to you is mentioned bowes placed behind calivers.'[2] Sir John Smythe, who asserts the superiority of archers under nearly all circumstances, both on foot and on horseback, gives instances of their successful use and enumerates the disadvantages of hand fire-arms. His reasons are too long to quote at length. Briefly those against hand guns are as follows : That it is impossible to aim accurately except point-blank ;[3] that the bullets being smaller than the bore fly wide of the mark ; that unless the powder is well made and perfectly dry the piece fouls quickly, the point-blank range being reduced ; that if the match is not well made and twisted it will not burn ; that unless the muzzles are kept up the bullets drop out ; that harquebuziers and musketeers do not load their pieces properly, constantly omitting to put wadding between the powder and bullet and over the bullet, the result being that the powder is not properly consumed in the barrel ; that in wet weather and when foul the pieces will not go off at all ; that the wind blows the

[1] *Things needful at this time.*
[2] *The Pathwaie to Martial Discipline*, 1584.
[3] Backsights were not invented till later.

powder out of the pans; that harquebuziers cannot defend themselves against cavalry, or shoot in more than two ranks; and that the weapons are cumbersome and heavy. He only admits two imperfections in the bow, i.e. that it or the string may break; but these accidents seldom happen, and if the string does break every archer can and should have another ready to put on at once. The advantages of the bow are that archers may stand eight or ten deep (in the formation known by the cheerful name of a 'hearse'), and discharge their arrows over one another's heads with effect; that the bows being always strung archers can shoot much more rapidly than harquebuziers, who have to load, giving at least four shots for one; that flights of arrows have a terrifying effect both on men and horses; and that the latter become unmanageable by reason of the arrows remaining in the wounds.

Barwick, who is the uncompromising enemy of the bow, joins issue on all these points. He admits that the objections against the harquebuze are true when it is used by ignorant or careless men, and that then 'it is more hurtful than commodious,' but in the hands of a skilful soldier 'it is a most deadly and terrible weapon.' Wet, he says, is just as bad for the long bow as for the harquebuze, as archers in camp, being unable to keep their bows and arrows dry, the horns and feathers come off. He asserts that it is easier to aim with a harquebuze than with a bow; that good archers are scarce and bad ones do not draw their arrows to the head, but being afraid of harquebuziers stoop, and loose them off half drawn, so that they fly with no force. As to the only drawback to archers being the possible breaking of the bow or string, he says:

Yet I take it that there are divers other lettes the which I have seen divers Archers complain of. Fyrste that he could get no warme meate, nor his three meales every daie as his custome was to have at home, neyther his bodye to lye warme at night, whereby his jointes were not in temper, so that being sodainely called upon as the service doth often fal out: he is like a man that hath the Palsy, and so benommed that before he get eyther to the fire or to a warme bedde, he can drawe no bowe at all.

With respect to rapidity of fire at close quarters, he states, harquebuziers can load with two or three bullets; and that though he heard a certain Captain Brode say at Berwick to the Earl of Bedford that harquebuziers could only discharge ten shots an hour, he would undertake to fire forty in the same time. Finally, to test the relative efficacy of the two weapons, he offers to arm himself in pistol proof, and to allow the best archers to shoot ten arrows at him at six-score yards, 'and if I be therewith wounded I am content to take my mends in my own handes'; while, as a test on the other side, he proposes to set up a complete suit of armour at the same distance, and shoot twice at it with a musket or harquebuze, when the relative value of the weapons would soon be seen.

Sir John Smythe's answer was never printed,[1] but survives in MS.[2] In it he gives numerous instances of the execution done by archers with their arrows; he denies that they do not pull their arrows to the head, or that they are afraid of harquebuziers. He repeats the many objections to hand firearms, asserts that not one musket in three hundred is free from imperfections, owing to the unskilfulness of the artificers, but admits that they can be used with advantage in 'bulwarks, ramparts, cavaliers, or mounts of a fortress,' as harquebuziers can there keep their weapons, powder, &c., in the greatest state of perfection, and 'can shoote from a steadie reste without exposing themselves muche.' He admits that it may be possible for them to fire more than ten shots in an hour, but sarcastically remarks that in that case they would hit nothing; for as it is, not one bullet in 300 hits, and a very small proportion of them are fatal; as to shooting more than one bullet at a time, he says archers can, on emergency, also discharge two or three arrows at once. The proposed test he rejects as absurd.

[1] Probably in consequence of his being sent to the Tower in 1594 and kept there for two years, for using seditious language and inciting some of the musters to mutiny: see *State Papers*, Dom. vols. cclix., cclxiii., cclxiv.

[2] Harl. MS. 135.

Sir R. Williams considers 500 musketeers of more use than 1,500 archers, for out of 5,000 bowmen he says it is difficult to find 1,500 who can 'shoote strong shootes'; while if they are in the field three or four months, out of 5,000 not 500 'will make anie strong shootes.' He says 'few or none do anie great hurte 12 or 14 score off'; and altogether he regards 'bowmen the worst shot used in these daies.' Sutcliffe thinks they may be of use in the field, but in fortresses he prefers harquebuziers. On the whole, the balance of opinions is decidedly against the bow, yet in 1613 and 1616[1] it again found advocates, for much the same reasons as those advanced in its favour by Sir John Smythe.

In 1595 Sir H. Cock[2] writes to Lord Burghley that the bow, for want of use, had become unserviceable; and the same year an order in council directs that the trained bands should be armed with calivers and muskets instead of bows.[3]

The following is from a MS. list of stores in the Tower in 1599[4]:—

Bowes with 386 decaied	8,185
Bowestaves 38 unservie	6,019
Wreckes[5] of Bowstaves	983
Slurbowes[6] 1 lacks a bender	15
Crossbowes 1 lacks a tiller	180
Bowestrings	196 gross 10 doz.

Lyverey Arrowes 14,125 Sheefes whereof 731 Sheefe to be repaired and 30 Sheefe decaied

Slurbowe arrowes 132 whereof 12 with fireworks.

Crossbowe arrowes decaied 500.

Musket arrowes with 56 to be fethered 892 Sheefe 13 arrows and 1 case full for a di. Culverine.

Longbowe arrowes for fireworks 12 Sheefe, and Longbowe arrowes with fireworks 96 Sheefe decaied.[7]

[1] Sir J. Hayward, *Lives of the Four Norman Kings*, and Bingham, *The Tactics of Ælian.*

[2] *State Papers*, Dom. vol. cccxxxiv.

[3] Raikes, *Hist. Hon. Art. Co.*

[4] *Archæologia*, vol. xiii.

[5] Query 'Racks.'

[6] A sort of crossbow with a barrel. Halliwell, *Archaic Dict.*

[7] Similar lists are given for other places.

In 1600 an entry appears on February 9, 'payment made to Rd. Bowlte Master Bowyer of [£] 4-18-4 for repairing & straightening 295 liverie Bows beeing before unserviceable,'[1] showing that, in spite of the trained bands being armed with muskets, bows were still thought of sufficient consequence to be repaired. 'Musket arrows' seems a curious item, but arrows were used in this way, as Sir Richard Hawkins, in his account of a voyage to the South Seas in 1591, speaks of their usefulness; he says they will penetrate through both sides of a ship's upper works, which are usually considered musket-proof, and expresses his opinion that they are the best sort of shot in use for annoying an enemy at sea. 'Arrowes with fireworks' were intended to set fire to buildings, frighten horses, &c., and were actually used as late as 1604 at the siege of Ostend.[2]

The long-bow seems now to have rapidly fallen into disuse as a military weapon. In 1610 there is a remembrance from the Council in Ireland for the Lord Deputy saying that the offices of fletchers and bowyers should be abolished as obsolete,[3] and in muster lists men are no longer found armed with bows,[4] yet, strangely enough, the bowyers, who had long been a company by prescription, did not receive a charter till 1621.[5] Six years later, they petitioned the Council as to the decay of archery, and the Lord Mayor was directed to appoint a committee to inquire how archery could best be encouraged. The committee duly reported, recommending that four regiments or companies of archers should be formed, but nothing seems to have come of it.[6] The same year the lord lieutenants of counties are directed to see that of the newly levied men twelve in every fifty are archers.[7]

Charles I. this year also ordered the Council in Scotland to grant a commission to Alexander Macnaughtan to raise two

1 B. M. MS. 5752.
2 Daniel, *Hist. de la Mil. Fran.*
3 Hist. MSS. Com. 9th Report.
4 Lans. MS. 73.
5 Hazlitt, *The Livery Companies.*
6 Raikes, *Hist. H. A. C.*
7 *State Papers*, Dom. vol. lxxiv.

hundred Highland bowmen to serve in the expedition to the island of Rhé. Magnaughtan levied about a hundred men, who sailed on December 11, 1627, but being caught in various storms were driven into Falmouth. On the following January 15, he writes to Lord Morton requesting that clothes, provisions, &c., may be provided for them in the Isle of Wight, which he hopes to reach soon.[1] Whether they ever got to Rhé does not appear, but archers of some sort took part in the expedition, their exploits not being however stated.[2]

In 1628 a commission was granted to T. Taylor, J. Hubert, J. le Neve, and others, to enforce the 33rd Henry VIII. as to the practice of archery; in 1631 the mayor and others of Newcastle-on-Tyne complain to the Council that John le Neve has been there with a patent directing this statute to be enforced. They say that the statute has long been in abeyance, and since the use of muskets, bows and arrows are no longer used: there are no bowyers or fletchers in the town or country, or bowstaves and other necessaries, and they are armed with muskets, pikes, and other arms. They therefore petition, that if the statute is to be enforced, time may be given them to procure necessaries, and ask the Council to send them bowyers and fletchers from London, and supplies of bowstaves.[3] In consequence of this and similar complaints, a proclamation was issued revoking this commission, as it caused 'exaction and unsufferable abuses' . . . . 'nevertheless, it is our will and pleasure that all mayors, &c., shall advance the auncient and commendable exersice of archery, according to the statute 33 King Henry VIII.'[4]

In 1625 William Neade, archer, published a book called the 'Double-armed Man,' which explained a new exercise combining the use of the bow with the pike. This appears to have been performed before the king, who, though approving the invention, took no steps in the matter till 1633, when, after

[1] *Archæologia Scotica*, vol. iii. [2] Daniel, *Hist. Mil. Fran.*

[3] *State Papers*, Dom. vol. xcviii.; Rymer.

[4] *Ibid.*, Dom. vol. clxxxiii.

sundry petitions, he granted a commission to William Neade and his son to teach the use of the bow and pike together, directing the justices, &c., in England to do all they could to assist Neade, and strongly recommending the exercise to the 'chiefe officers and others of our Trayned Bands.'[1] Two years later Neade petitioned, saying that the king having approved

FIG. 107. 'The pikeman stands coucht and charged for the horse, with his sword drawne'

(*From Neade's 'Double-armed Man,'* 1625)

the use of the bow and pike together and authorised him to teach the same, he had laid out his whole estate of 600*l.* and incurred debts in furnishing himself with ammunition for the purpose, but that owing to the evil example of the city of London, this service is wholly neglected, and he prays that the Lord Mayor may be ordered to direct the trained bands to

[1] Rymer.

furnish themselves with such ammunition, so that the petitioner may sell what he has provided, and that delinquents who refuse may be proceeded against.[1] It does not appear what was done on this petition, but probably some steps were taken, as in 1637 Neade petitions the Council that some reward may be given to encourage those who practise the exercise of the bow and pike together, and he mentions that this exercise was performed by 300 of the Artillery Company before his Majesty.[2] Two cuts are given from Neade's book, to show his method of combining the use of the bow and pike. (It is curious that the figures, which are those of foot soldiers, have their heels adorned with huge spurs.) This invention of Neade's was many years too late to become popular—the musket was rapidly proving its superiority, and the bow falling more and more into disuse; though, in the same year, a commission was issued, ordering the statute 33 Henry VIII. for the maintenance of archery, and two other statutes of 12 Edward IV. and 13 Elizabeth, respecting the importation of bow-staves by merchant strangers, to be enforced.[3] In 1638, Lord Arundell and Surrey says: 'I hold it fit that instantly some quantity of bows with offensive arrows should be poured into our bordering shires of Cumberland, Northumberland, and Westmoreland (already used in archery), and their old arms of spear and jack restored.'[4]

Frequent complaints are found by archers of encroachments on their shooting-fields; the owners of the fields also complaining against the archers. In this same year (1638) J. Oldfield says he is prevented from making bricks by being ordered off his own land on petition of the commissioners for archery for the 'superfluous pleasure of the citizens,' whereby he will lose 1,250*l.* He says he has already paid 1,000 marks to the king as duty on bricks,[5] and if allowed to go on with his business would pay much more—an argument which probably brought him redress; but from the words 'superfluous pleasure,' it does

1 *State Papers*, Dom. vol. cccx.
2 *Ibid.*, Dom. vol. ccclvi.
3 *Ibid.*, Dom. vol. ccclxi.
4 *Ibid.*, Dom. vol. cccxcvii.
5 *Ibid.*, Dom. ccccvii.

not seem as if the fields were shot over at this period for anything but amusement.

During the civil war instances occasionally crop up of the use of the bow. In 1642, a party of the king's troops are stated

FIG. 108. 'The pikeman stands sloapt and shooting'
(*From Neade's 'Double-armed Man,'* 1625)

to have been met armed with bows, and they are mentioned as having been used at the sieges of Devizes and Lyme; but neither side could have employed them to any extent. It is evident that the 33 Henry VIII. was disregarded, in spite of the

commissions for enforcing it, as otherwise we should find some at least of the king's troops armed with bows and arrows, for they were so much in want of weapons that on the march from Shrewsbury (1642) three or four hundred are stated to have been armed only with cudgels,[1] no bows being mentioned. The next year the Earl of Essex issued a precept (with what success does not appear) 'for stirring up all well affected people by benevolence, towards raising a company of archers for the service of the king and parliament.'[2] In 1644 Lord Kilpont commanded the bowmen who were on the left of Montrose's army at the battle of Tippermuir:[3] this seems to be the latest instance of the use of the bow as a war weapon in this country, though it is said to have been used at a great clan battle fought in the year 1688 between the Laird of Macintosh and Macdonald of Kippoch.[4] The last offensive use of the bow seems to have occurred in 1791, when two gentlemen fought a duel with bows and arrows at Edinburgh, shooting three arrows each without damaging each other.[5]

There are several instances of the suggested revival of the bow as a military weapon, long after its regular or even casual use. Writing in 1670, Sir James Turner says:

> The bow is now in Europe useless, and why I cannot tell, since it is certain enough arrows would do more mischief than formerly they did: since neither men nor horses are so well armed now to resist them, as in former ages they used to be. There are some who bring reasons for bringing the bow again into use, such as these:—First, arrows exceedingly gall horses and consequently disorder their squadrons, because being so hurt they will not be managed by their riders; secondly, a bowman can shoot many more arrows than a musketeer bullets; thirdly, all the ranks of archers may shoot their arrows over their leaders' heads with equal mischief to an enemy, whereas musketeers can conveniently but deliver their shot by one rank after another, or by three ranks at most, by kneeling, stooping, and standing—seldom practised, and only at dead lift. These reasons are to me unanswerable, and I

[1] Clarendon, *Hist. of the Rebellion.* [2] Grose, *Mil. Ant.*
[3] Napier, *Memoirs of Montrose.* [4] *Archæologia Scotica*, vol. iii.
[5] *Scottish Journal of Topography*, vol. i.

think might weigh much with princes to make the half, or at least a third, of their *velites* to be archers, and by the bargain they might save much money expended in powder and lead.[1]

About a hundred years later (1776) Benjamin Franklin, writing to General Lee, says, 'I still wish, with you, that pikes could be introduced, and I would add bows and arrows: these

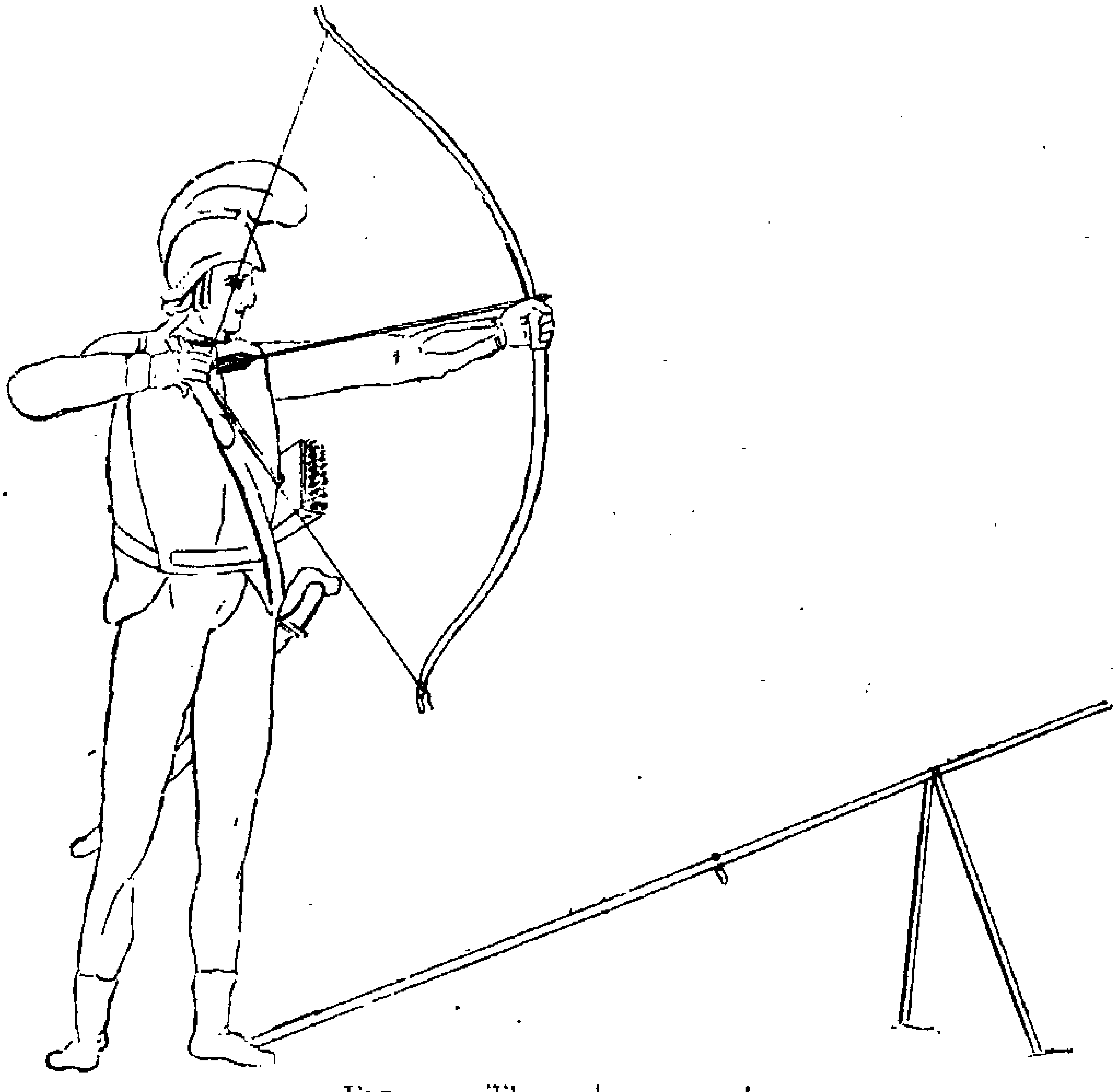


FIG. 109. The archer covered
(*From Mason's 'Considerations,' &c.*, 1798)

were good weapons not wisely laid aside.' He gives the usual reasons for his opinion, adding, as further advantages, that the accuracy of the bow is as great as that of the musket, the absence of smoke, and the ease with which bows can be procured.[2]

[1] *Pallas Armata.* [2] *Memoirs of C. Lee.*

In 1784 the Archers' division of the Honourable Artillery Company was formed, an account of which is given in Chapter XIV. It could hardly have ever been seriously contemplated to make it a military body, though the members when on duty were to wear a bayonet; and in a manuscript book containing carefully executed drawings of archery implements drawn in 1789, a bow with a bayonet to screw on to the end of it is depicted, which possibly was the weapon the division used. In 1794 the Court of Assistants passed a resolution 'that it be recommended to the Archers' division to adopt some better mode of arming themselves, so as to become more efficient on their joining the battalion on public emergencies.' [1]

The last advocate for the use of the bow in war was Mr. Richard Oswald Mason, a member of the Toxophilite Society, who in 1798 published a book [2] urging that as it was intended to have a general arming of the people, and probably many of them would from necessity be armed only with pikes, it was advisable they should also have bows. His idea is apparently borrowed from Neade's 'Double-armed Man,' though he does not refer to this book.

It will be seen, as was stated at the beginning of this chapter, that the bow was generally looked upon as equal to firearms up to about 1590, but that a few years later it had almost entirely disappeared, though efforts were vainly made to revive its use up to the end of the eighteenth century. It is difficult to understand the attempts made in the reign of Charles I. to enforce the acts for the practice of archery, and for the importation of bowstaves, except on the ground that the falling-off in the efficiency of the bow was attributed more to the want of practice, and consequent deterioration of the archers, than to the superiority of firearms.

[1] Raikes, *Hist. H. A. C.*

[2] *Considerations of the reasons . . . for reviving the use of the Longbow.*

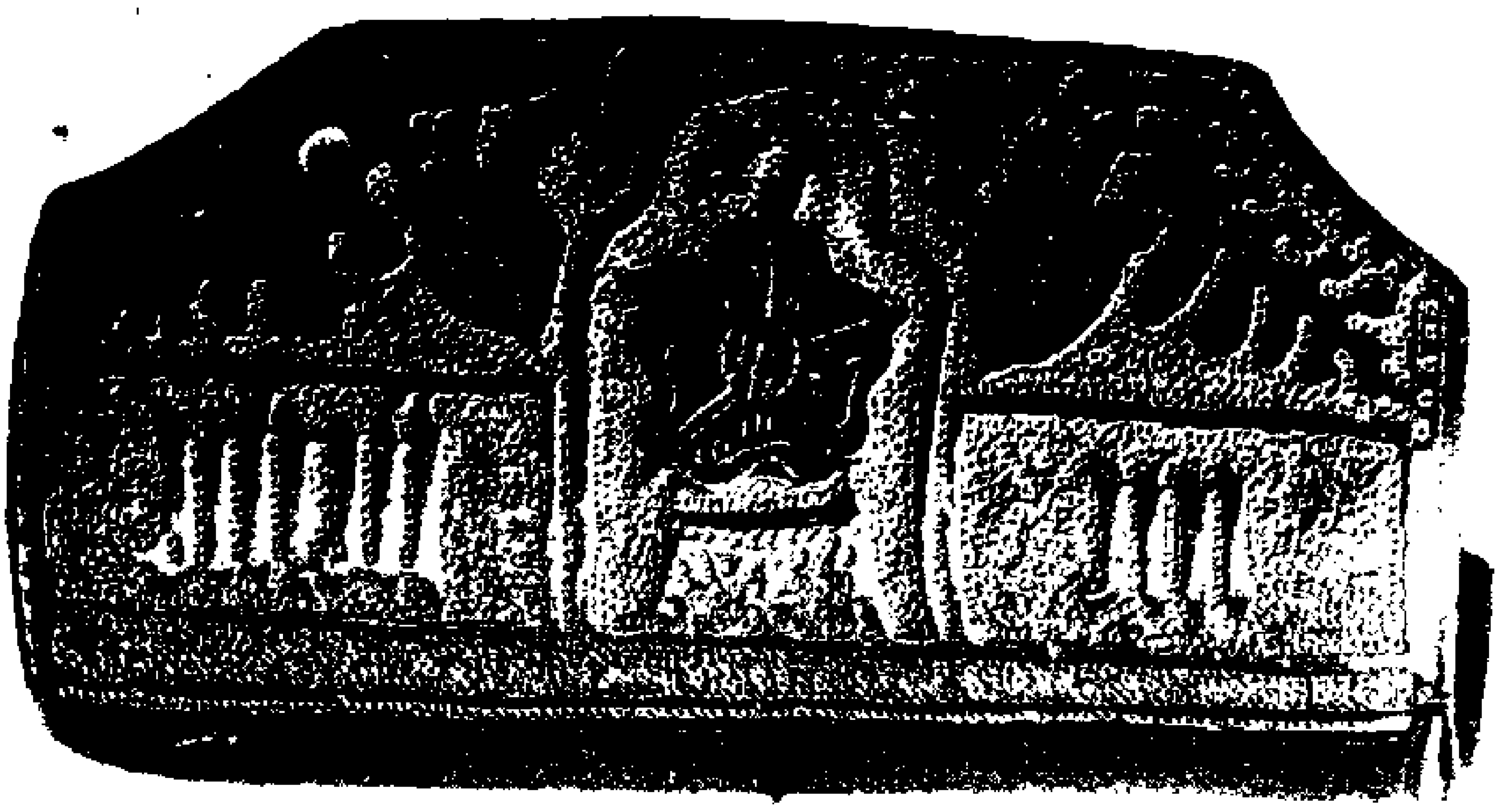


FIG. 110. Bracer of Henry VI.
(*From the collection of H. J. Ellis, Esq.*)

CHAPTER X

ARCHERY AS A PASTIME

BY COLONEL WALROND

THE practice of archery as a pastime by no means commenced when the use of the bow in war ceased ; indeed, its general popularity as an amusement was greatest when it was most formidable as a military weapon. Though essentially practised by the lower classes, from necessity as well as from choice, the higher are also found shooting with the bow both for pleasure and sporting purposes.

Many of our kings and queens have been conspicuous for their skill with the bow. To go no further back than to the reign of Henry VI., we find he was a skilled bowman, and an interesting memorial of his fondness for archery is a bracer left by him at Boulton Hall in Yorkshire, an illustration of which is given. It is made of thick leather, having stamped upon it in relief his device and the motto, 'I. H. S. Helpe,' the ground having been gilt. It was given to Sir Henry Ellis, the grandfather of the present owner, H. J. Ellis, Esq., and is a fine example of the leather-work of the time.

Henry VII. and his eldest son Prince Arthur were archers, and Henry VIII. was not only a great patron of archery, but also a good shot. Holinshed says that in 1510 'His Grace shotte as stronge and as greate a lengthe as anie of his garde.' He also gives an account of his going a 'maienge,' when a certain archer asked leave to show his skill before the king, which permission being granted, 'the man put the one foot in his bosome, and so did shoot, and shot a verie good shoot and well towards his marke, whereof not onlie his Grace, but all the others, greatlie marvelled'; and no wonder! John Taylor, clerk of the Parliament, tells us in the diary which he kept while he followed the English army in France in 1513, that three ambassadors came to the king, 'who was practising archery in a garden with the archers of his guard. He cleft the mark in the middle and surpassed them all.' At the Field of the Cloth of Gold he is said to have excelled all in shooting, both for distance and accuracy of aim.[1] He frequently attended shooting matches, and on one occasion is said to have promised one of his guards, called Barlow, that if he won, he should be created Duke of Shoreditch, and this title, and similar fantastic ones, seem to have been handed down and used by skilful archers for a considerable time, as Wood, in his 'Bowman's Glory,' uses them to designate certain leading archers.

Henry VIII. himself shot matches with his courtiers for what would now be considerable sums, and archery must in his reign have served as an opportunity for a very fair gamble. A few of the many entries relating to archery in his privy purse expenses are given, from which it will be seen that Anne Boleyn also patronised the sport :—

1530.—May. Itm. the same daye paid to Scawseby for Bowys, Arrowys, shafts, brode hedds, bracer, and shooting glove for my Lady Anne, xxxiij*s* iiij*d*.

June. Itm. the same daye paied to the Kings Bowyer for iiij bowes for my ladye Anne at iiij*s* iiij*d* a pece, xiiij*s* iiij*d*.

Itm. to the same Sir John Hurte for money loste at shotyng, xxv*s*.

[1] Hansard, quoting *Paulus Jovius*.

1531.—8 May. Itm. paid to George Coton, for that he wonne of the Kings Grace at the roundes the last daye of Aprill iij*l*.

30 June. Itm. paid to the iij Cotons iij setts, the which the Kings Grace lost to them at Greenwiche Parke, xx livres.

8 July. Itm. paid to my Lord of Rocheford for shootyng with the Kings Grace at Hampton Court, lviij*l*.

26 July. Itm. paid to my Lord of Rocheford for shooting money, vi ryalles iij livres vii*s* vi*d*.

1 Sept. Itm. paid to Master Page for so much money as he wonne of the Kings Grace at shootyng, xx*s*.

1532.—7 Oct. Itm. paid to Henry Birds for divers bowes and shaftes for the Kings Grace for one year, xvi*l*.[1]

In 1530 Lord W. Howard was sent as ambassador from England, to negotiate an interview between James V. and his uncle Henry VIII.; and the Queen-mother challenged James to produce three landed gentlemen and three yeomen to contend in archery with six of the ambassador's suite, the prize being 100 crowns and a tun of wine; and though the Englishmen are reported to have conducted themselves as skilful and excellent archers, the Scots won. From this it is evident that at this time archery was a popular pastime among all classes. Ladies also used the bow to good purpose in the field-sports of the day, as Sir F. Leake, writing (in 1605) to the Earl of Shrewsbury, says: 'My right honourable good Lord,—Yo. Lordshippe hath sente me a verie greatte and fatte stagge, the well-comer being stricken by yo. right honourable Ladies handes . . . howbeit I knoe her Ladishipp takes pitie of my bucke sense the last tyme yt pleased her to take the travell to shote att them. I am afreyde that my honorable Ladies, my Ladies Alathea and my Ladie Cavendishe wyll commande their aroe heades to be verie sharpe: yett I charitablé trust such good Ladies wylbe pittifull.'[2]

The first writer on the art of shooting with the long-bow was Roger Ascham; he was born in 1515, went to Jesus

[1] Sir H. Nicolas. Privy Purse Expenses, Henry VIII.
[2] Lodge, *Brit. Hist. and Bio.*

College, Cambridge, when he was fifteen, and in 1544 wrote 'Toxophilus.' Ascham was of a studious disposition, but his health not being good, he was obliged to take outdoor exercise. Archery was chosen by him, and he eventually became so fond of the sport that he devoted himself to it more than his contemporaries approved of, and they accused him of wasting time on archery which might be more profitably employed in reading. He seems to have been, besides his love of archery, of a sporting turn of mind generally, as in one of his epistles he speaks of cock-fighting, and expresses his intention of writing on the subject : which, however, he does not appear to have done, and it is very possible that it was not his archery practice alone which was objected to. 'Toxophilus' is, therefore, not only a treatise on shooting, but also, to a certain extent, an apology for his devotion to the bow. It is well worth reading, and his description of the attitude in which various archers shoot is true to the life. Every subsequent writer on archery has borrowed more or less from his book, either with or without acknowledgment ; and his 'five points' have hitherto been the basis of all text-books on the subject. In 1545 he presented 'Toxophilus' to Henry VIII., who was so pleased with it that he awarded the author a pension of 10*l.* a year, which was confirmed by Edward VI. In 1548 he was appointed reader to Princess Elizabeth, and probably the skill of Edward VI. and Queen Elizabeth with the bow was due to his instruction. Edward VI. seems to have been fond of archery, and from entries in his diary[1] we find that he frequently saw his guards shoot, and himself contended with his courtiers ; and he mentions that on one occasion M. le Mareschal St. André came to see him shoot, quite as if it was (which it may have been) a sight worth seeing. Archery, however, seems to have been falling off in popularity at this time, as Latimer in his sixth sermon laments the fact that young men indulged in more hurtful pastimes than the use of the bow.

Queen Elizabeth was, according to the Veel MS.,[2] a good

[1] B. M., MS. Nero C. 10. [2] An MS. of the Berkeley family, Hansard.

shot, as it says she 'was so good an Archer that her side was not the weaker at the Butts,' and she is also said to have organised a corps of archers among the ladies of her Court. In this reign Harrow School was founded by John Lyon, and his 'Orders and Statutes' directs that besides paper, pens, ink, &c., parents shall provide their sons 'at all times (of the year) with

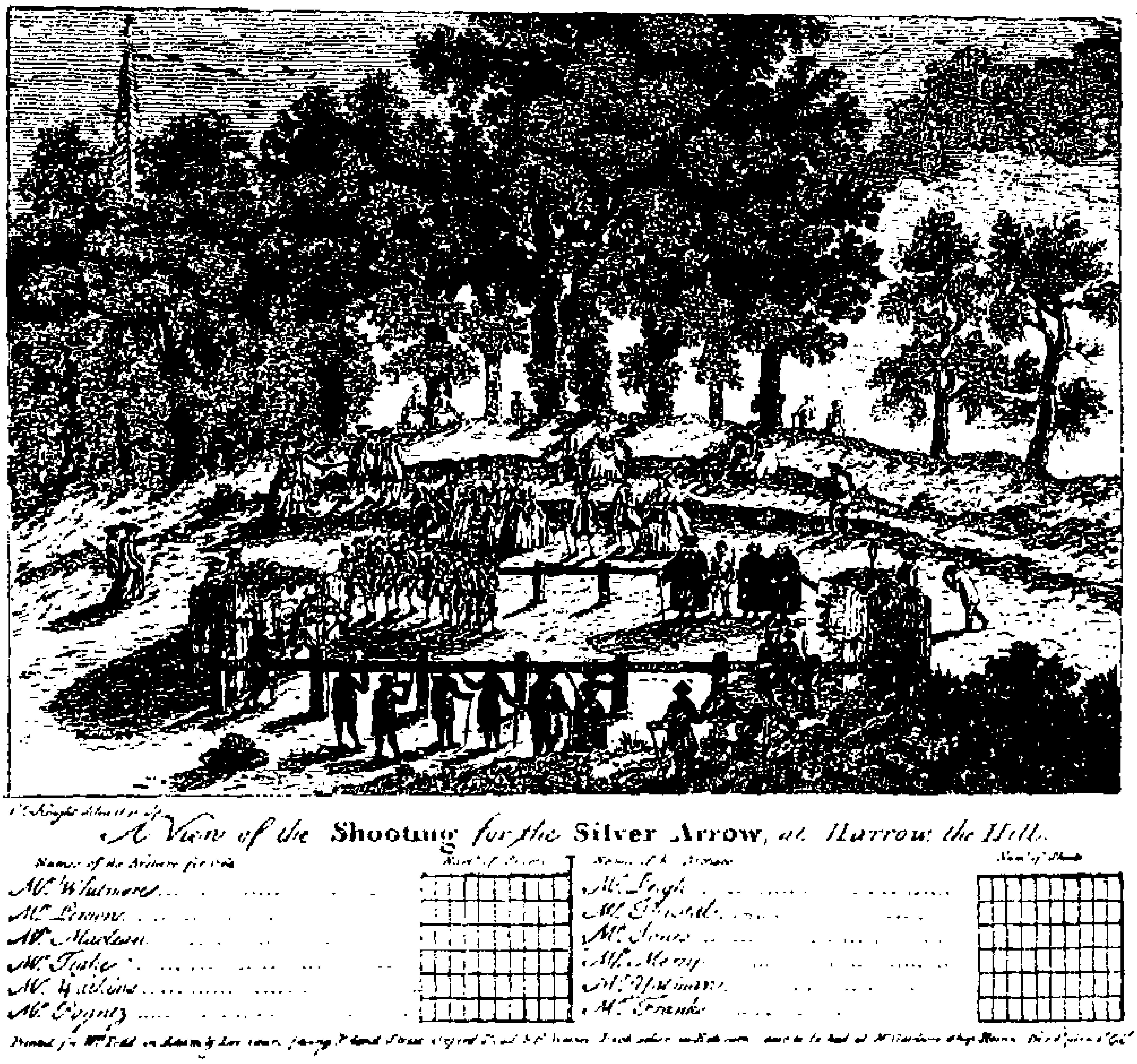


FIG. 111. Harrow shooting paper

bowshafts, bowstrings, and a bracer.' Probably archery was common in all our early public schools; it certainly was at St. Albans, and at Eton not many years ago part of the Playing-fields was known as the 'Shooting' field. At Harrow the custom of shooting for the 'Silver Arrow' lasted till 1771, when it was put an end to, not without vigorous pro-

tests, by Dr. Heath. The reasons given for abolishing the custom was that undesirable characters were drawn to Harrow on the occasion, as it seems to have been a regular show, the competitors wearing green and silver spangled dresses, with sashes and caps to match : trumpeters being retained to blow a merry blast when the bull's-eye was hit. It appears also that the boys who were to take part in the contest claimed, 'as a privilege not to be infringed upon,' time for practice, which put difficulties in the way of the regular school work.[1] It is worth noticing in connection with this competition that a paragraph appeared in the 'Morning Herald' of August 3, 1816, saying that the Silver Arrow was shot for as usual at Harrow on the previous Thursday, and won by Master Jenkins. Miss Banks (to whom archers are greatly indebted for her archery collections), on visiting Harrow on the following 14th of October, found this to be entirely without foundation, and duly notes the fact.[2] In the library at Harrow one of the dresses worn on these occasions is preserved, as well as two bows, some arrows, and a few other relics of the competition for the Silver Arrow.

The fields round London had been used by the citizens and others for the practice of archery from a very early date ; but in course of time the owners seem to have enclosed their land, which led to frequent conflicts. In 1513 we are told that, feeling themselves aggrieved at the enclosure of various fields 'whereby they could not be suffered to exercise their bows,' the citizens pulled the hedges down ; and statutes were passed in the reign of Henry VIII. and subsequently directing that the fields should be available for practice. There were a great number of marks or rovers in these fields—some of wood and others of stone—with various devices on them, placed at various distances, as well as butts. Two can be seen in fig. 115, and from the only remaining stone mark having traces of a hole or socket on the top, probably it formerly had a post fixed on it with a device as shown in the cut. At various times

[1] Harrow School Lists. [2] B. M. MS. 6314.

'aims' or guides to the Finsbury Fields were published containing a plan and list of the marks (each of which had a distinguishing name) and showing their relative distance from each other. From these we find that in 1628 there were 164 marks, which however had decreased to 21 and three butts in 1737. In 1858 two are mentioned as having been recently destroyed, and two as being in existence. One of these, which was called 'Whitehall,' is stated to be at the end of Dorchester Street, Hoxton; and the other, 'Scarlet,' was built into a wall by the canal.[1] The latter was removed in 1881 to the Armoury House of the H. A. C., and an illustration is given of it, but of the former no trace can now be found. The ownership of these marks was vested in the H.A.C., and notices are found down to the end of the eighteenth century of their pulling down hedges and filling up ditches in Finsbury Fields which prevented free access to the marks, and debarred them from exercising their ancient privileges. The archers frequenting these fields for practice formed themselves into societies or associations, and there were apparently three of these: the Society of Saint George, or the Honourable Artillery Company; 'The auncient order societie and Unitie laudable of Prince Arthure and his knightly armory of the round table,' of which no record exists, except a book published in 1583, from which it appears that these Archers called themselves after King Arthur's knights; and the Finsbury Archers.

FIG. 112. Archer's mark

The Finsbury Archers seem to have flourished about the time that the bow ceased to be used in war; and from their general connection with the Honourable Artillery Company

[1] Tomlin, *Perambulation of Islington.*

they probably consisted originally of the members of that company who, being fond of the bow, practised with it as a pastime after they had discarded it as a martial weapon. The first mention of them is in 1590; they do not appear to have been a regularly constituted society, but to have answered more to what the Scorton Arrow Meeting is now, though they called themselves the Society or Regiment of Archers and practised together. To them belongs the honour of starting competitions which may very well be called the forerunners of the Grand National Meetings, as they held three several competitions, called the Easter Target, the Whitsun Target, and the Eleven-Score Target. Records exist with lists of the captains and lieutenants of the Easter from 1654 to 1757, and of the Whitsun targets from 1692 to 1761 (with a few exceptions). The rules of the Eleven-Score Target are dated 1761, but the winners' names are not given. The rules for all three of these meetings are somewhat similar: the manner of calling the Archers together was by a proclamation signed by the stewards, who had been appointed the year before; substituting circulars for the proclamation, it is the same course as was adopted for holding the Grand National Archery Meetings before the society was formed, and circulars would, with the postal arrangements in force in 1650, have been impossible. The proclamation for the Eleven-Score Target in 1676 is as follows:—

All Gentlemen Lovers of the noble Society of Archery are desired to meet at Drapers Hall in Throgmorton St. on Monday, the 24th day of July, 1676, by Twelve of the clock precisely; and according to ancient custom of Finsbury Archers, to deliver to the bearer hereof, Mr. William Wood, upon receipt of this ticket, Two shillings and sixpence, that provision may be made accordingly. This serves also to give notice, That the Eleven-Score Target shall be set up by us in the new Artillery-ground upon Wednesday the 26th day of July following; and that day to begin to shoot at the same by nine of the Clock (as it was begun and shot at the last year). All Archers intending to shoot at the same are to pay down their Twenty shillings upon the 24th day of July unto us, or either of us, or to Mr. William Wood, that Plate may be

provided and further trouble prevented of sending to Archers for the same : the place and time of meeting them being uncertain. Given under our hands July 13, 1676.[1]

EDWARD HUNGERFORD }
EDMUND ASHFIELD } *Stewards.*

The Archers having assembled, all except the captain and lieutenant (who shot first and second), proceeded to draw lots for the order of shooting—which in those days was of consequence, as the prizes were given for the first *hit* in the various colours. The manner of shooting also was different from that now practised : the captain took his stand, shot his first arrow, and went round the target by the left ; the lieutenant then shot his first arrow and went round in a similar way ; the captain then shooting his second arrow, and going off to the left, the lieutenant shot his second arrow. The archers who had drawn Nos. 1 and 2 followed, and so on till all had shot. It will be noticed that, allowing for the difference in the value of money, the sum (1*l.*) charged for entrance was a large one, and it was expended in the purchase of plate. The archer who *first* hit the centre of the target (which was to be 'redd or gilded') won the captain's prize, which was to be of the most value. The next highest prize was won by whoever first hit the next circle, the winner being called the lieutenant. The third circle or inner white had 'eight, ten, or twelve spoones of equall vallue' apportioned to it, worth about eleven or ten shillings each. The fourth circle, or black, and fifth circle, or outer white, had the same number of spoons as the inner white allotted to them, but of a decreasing value for each circle. Everyone hitting either circle received one of the spoons belonging to that circle as long as there were any left, and if there were none, but some of a lower value still remained, then he got one of those. When all the prizes were won, the 'game' was said 'to be shotten down,' and the shooting was over. Though the shooting commenced at eleven-score

[1] *Gentleman's Mag.* 1832.

yards, it must not be understood that the 'game' was necessarily all shot at that distance, as after every few rounds the captain could direct an advance of ten yards nearer the target.[1]

The records of the Finsbury Archers contain some interesting information with respect to the Catherine of Braganza

FIG. 113. Finsbury Archer's ticket

Shield now in the possession of the Royal Toxophilite Society. In July 1676 William Wood appears to have been sent round to the Archers with a paper, signed by Sir E. Hungerford and others, stating that the 'Officers and others of the Society of Archers within the cities of London and Westminster' had

[1] Rules for the Easter, &c, Targets. G. MS. 193.

determined that the 'bearer, William Wood, shall have a Silver Badge and wear the same as Marshall to the Queens Majestys Regiment of Archers,' the names of the various subscribers being appended, with the amount (1*l.* 1*s.*) subscribed by each individual. The badge was duly bought and delivered to William Wood, but no acknowledgment seems to have been made by him that it belonged to the Archers, and, Wood being

FIG. 114. Sir W. Wood, with the Catherine of Braganza shield
(*From the picture in the possession of the R.T.S.*)

ill, this appears to have given rise to some anxiety. By a deed dated July 6, 1691, however, he acknowledges that the 'Silver badge, with an Archer drawing the long bow thereon embossed, having this motto or inscription—"Reginae Catharinae Sagittarii"—supported by two bowmen with the arms of England and Portugal on the top,' had been delivered to him by Sir E. Hungerford and others, and he covenants that the said badge

shall on his death be delivered to the stewards for the time being. Wood died in September 1691, and great care is afterwards taken that the succeeding marshals should give proper security for the return of the badge till 1736, when apparently the office of marshal was abolished, as the badge is lodged with Mr. James Drury, who gives a receipt for it, and after his death Mr. Snelling has charge of it.

The last captain of the Easter Target was Mr. P. Constable, who became so in 1757. He subsequently shot with Mr. Waring, and on the formation of the Toxophilite Society joined it, bringing with him the Catherine of Braganza Shield and other articles belonging to the Finsbury Archers, which are now in the possession of that society.[1] The number of competitors at these targets varied considerably; forty-five is the highest recorded number, but they were people of considerable importance, as Mr. Latham [2] says General Oglethorpe, afterwards a member of the Toxophilite Society, told him that he had himself shot in the Finsbury Fields in company with the Duke of Rutland and other persons of rank.

In 1693-4 Elizabeth Shaler, widow, bequeathed the sum of 30*l.* by her will to the Finsbury Archers, to be expended in plate to be shot for in six consecutive years, 5*l.* being given each year; but, owing to her having altered her will and made several codicils as to the bequest, doubts arose as to the disposition of the money. A memorandum, however, exists by which it appears that the executor paid 5*l.* a year for seven years, 'it being better for Archery,' and accordingly that amount was shot for annually in the years 1696-1702. Will

[1] Highmore, in his *History of the Honourable Artillery Company*, states that the Finsbury Archers amalgamated with the Archery division of the H. A. C.; but this is an error, as there does not seem to have been an Archery division of the H. A. C. at all till it was formed by some of the members of the Toxophilite Society in 1784. If the Finsbury Archers had amalgamated with the H. A. C., how could the remaining Finsbury Archers in 1781 have given the plate, &c., which had belonged to them, to the Toxophilite Society?

[2] B. M. MS. 29790.

someone kindly follow suit, and leave a substantial legacy to the Grand National Archery Society?

The frontispiece to Gervase Markham's 'Art of Archerie' represents Charles I. as an archer; but there does not seem to be any evidence of his having been one, although in 1637 payment is ordered to Martin Pattison of 12*d.* per day as yeoman-supernumerary of the King's Bows, in addition to 76*s.* per annum as huntsman of his Majesty's 'shott' hounds. Twenty pounds a year is also paid to Samuel Morris, Yeoman of the Bows in ordinary[1]; but, of course, it does not necessarily follow that he used a bow, as these offices may have been continued and become sinecures, or the holders of them may have performed other duties.

FIG. 115
(*Frontispiece to G. Markham's 'Art of Archerie'*)

In 1635 a grant was made to Ben Austen of a privilege for practising an invention for shooting with bows and muskets at butts and marks, and he was allowed to charge a penny for eight shots with a long bow, and twopence for six shots with a

[1] *State Papers*, Dom. vol. ccclv.

musket,[1] but there is no record as to what this invention was. There is in the Library of Dulwich College an advertisement which may refer to it of 'A General Prize for all those that desire to approve their skill either with Musket or Long bow,' the marks to be set up as well for 'Muskets with cock matches as for Long Bow and Arrows,' in St. George's Fields, on August 21; but no year is named, and though bound up with papers of Charles I.'s time, it may refer to one of the contests and processions which took place in the reign of Charles II. It is interesting, however, in either case, as apparently the prizes were to be shot for indiscriminately either with bow or musket, at the will of the competitor, for nothing is said as to there being separate prizes for each. The prizes consisted of 'a faire peece of Plate valuable xx Crowns,' 'A Standing Bowle valuable xv Crowns,' 'A bell Salt valuable x Crowns,' and 'a Seale Ring valuable v Crowns,' the charge or venture 'for each being respectively *2s. 6d.*, *2s.*, *1s. 6d.*, and *1s.* Due provision is made that the winners should have cash instead of the articles if they preferred it, and also that they should assemble and 'march in order with their colours to the said Fieldes.'[2] The distance was to be 'fourscore.'

Charles II. was an archer, and, before the Restoration, shot with the Guild of St. Sebastian at Bruges, and he presented to them a mace which is still in their possession. It is evident that he continued to take a great interest in archery from the numerous processions of archers and shooting matches which took place before him during his reign. In all the accounts of these matches and processions, fine dresses, drums, trumpets, flags, &c., are carefully mentioned, and no doubt the archers were vastly pleased with themselves and their appearance, but there is no possibility of even guessing how they shot. In 1661 there was a grand display in Hyde Park by four hundred archers, who were commanded by Sir E. Hungerford, Knight of the Bath, and it is stated that they shot 'near twenty-score yards within the compass of a hat with their crossbows'; so that it

[1] *State Papers*, Dom. vol. ccxciii. [2] *Aleyn Papers*, vol. ii. f. 87.

is apparently doubtful if they had long-bows as well, though probably they had, as they fired volleys of 'whistling arrows,' which do not appear to have been used for the former weapon. Wood, who describes this event, says: 'So great was the delight, and so pleasing the exercise, that three regiments of foot laid down their arms to come and see it'!

In 1675 there were two similar displays, at which bows are especially mentioned, as they also are in the following year. In 1681 the Archers marched in the usual way to Hampton Court, and shot before the King—at 160 yards, for prizes worth 30*l.*—who was so pleased with the performance that the marshal had the honour of being presented to him, and of kissing his hand.[1] Other similar displays took place, in one of which it is mentioned that, in addition to the prizes for archery, there was carried in the procession 'a Gilded Gun, as a reward unto the best that could handle his peece,' so that these displays were not confined to archery. The reader will find full particulars of these pageants in Wood's 'Bowman's Glory,' but they are hardly of sufficient interest to quote at greater length.

Competitions were held at the same time on much the same lines as those of the Finsbury Archers in other parts of the country. Among others, that for the ancient Scorton Arrow, which with a few exceptions has been shot for annually, from 1673 to the present time, and in which the archer who first hits the gold still becomes captain, and arranges for the next year's meeting, as was done by the stewards of the Finsbury Archers two hundred years ago.

There does not appear to be any mention of archery in the neighbourhood of London after the last recorded meeting of the Finsbury Archers in 1761, though we hear of it in the North of England, till we come to 1776. No doubt some of the Finsbury Archers, more enthusiastic than the others, kept up their shooting in the Finsbury Fields (we know that Mr. P. Constable did so, for one), but they must have been few in

[1] *Loyal Protestant and true Domestick Intelligence*, July 16, 1681.

number, as nothing is heard of them. In 1776 Mr. T. Waring began shooting, and this was the first step towards the revival of archery, which took place after Sir Ashton Lever had founded the Toxophilite Society in 1781. A full account of how this revival was brought about will be found in Chapter XIV., and it is therefore unnecessary to repeat it here. Archery rose rapidly in public estimation, and soon became one of the most fashionable forms of amusement; and Mr. Waring, seeing his opportunity, became a bowmaker. In a few years a great number of societies were established in all parts of England. The Prince of Wales took it up warmly, and did much to encourage its practice, as he was not only himself a constant attendant and shooter at various meetings, but he also became patron of several societies, and gave liberal prizes for competition, an example which was followed by the other Royal Dukes. As at this period conviviality took a prominent place in every social function, it is not to be wondered at that the opportunities afforded by a bow meeting for dinners, suppers, &c., were very soon appreciated, and many of the early societies seem to have taken more pains in framing their dining than their shooting regulations. The societies were also very particular as to their dress regulations, and the smart uniforms adopted probably had an alluring effect in obtaining members. Minute directions are found in all their rules, as to the cut and colour of the small clothes and green coats, of when boots and when shoes should be worn, and of the colour of the belt (which was considered indispensable) and bracer. In the British Museum may be seen a book[1] containing patterns of parti-coloured archery ribbons, which were used by the smart archers of the day to fasten their bracers, and to tie on the top of their bows, the arrows being painted to match.

Many archers, no doubt, were fonder of the bow than they were of their dinner, but the scientific part of archery was little understood. As far as can be ascertained by their scores, accurate shooting was not attained, and it is more than pro-

[1] Add. MSS. 6320.

bable that, in these days, the best 100-yard shot of a hundred years ago would find it difficult to secure anything beyond a best gold 'spider' at the G. N. A. M.

As the number of archery societies increased, their bowmen became desirous of testing each other's prowess, and the want of a general meeting, at which they might try their skill against each other, made itself felt. Accordingly, a meeting was held early in 1789, and representatives of the various societies were appointed to make the necessary arrangements for holding the 'Annual General Meeting of the Archers of Great Britain' at Blackheath. This meeting came off on May 17, 1789. The usual regulations as to dinner, order of marching on the ground, bands of music, gun-firing, &c. &c., occur, but are of little interest now, and what really would be interesting—information as to how they shot—is wanting. Subsequent meetings were held at Blackheath in 1790-1-2-3, and at Dulwich in 1794-5, but to all these meetings the same remarks apply—namely, that there is not sufficient information to institute a comparison of any value with the shooting of the present day, more care being taken to chronicle the goodness of the luncheon than the number of arrows shot. The principal prize-winners at these meetings were as follows :—

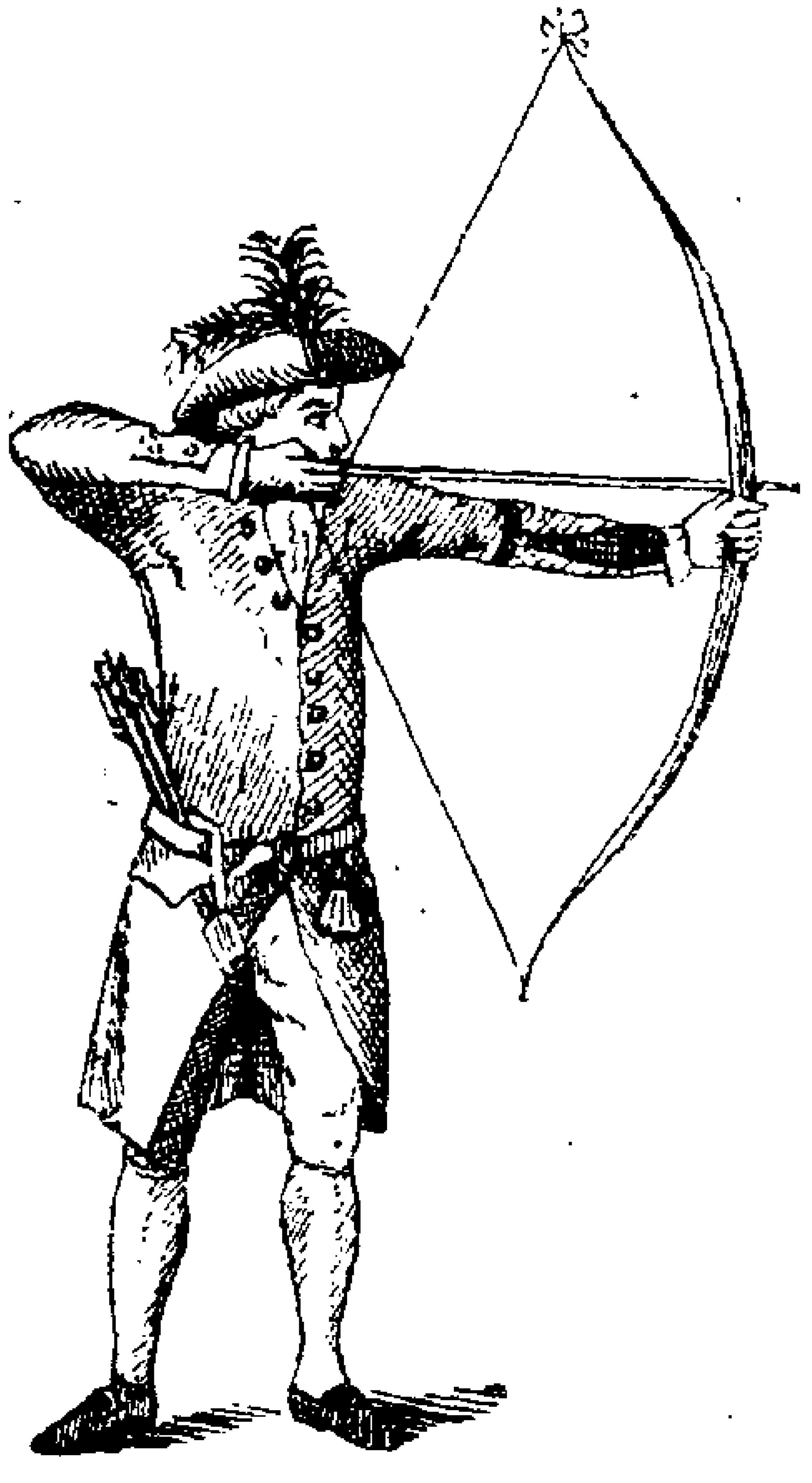


FIG. 116. Toxophilite uniform, 1792
(*Print by Rowlandson in 'Men, Maidens, and Manners'*)

1789. Messrs. R. Fielding and Waring (Toxophilite Society).
1790. Messrs. W. and T. Palmer (Woodmen of Arden) and

Mr. Brady and the Hon. E. Finch (Toxophilite Society).

1791. The Earl of Aylesford and Mr. W. Palmer (Woodmen of Arden).

1792. Mr. Anderson (Robin Hood Bowmen) and Mr. Glenn (Toxophilite Society).

1793. Dr. Leith (Royal Kentish Bowmen) and Mr. Jarvis.

1794. Mr. Cazalet (Toxophilite Society) and Messrs. Grew, Wynne and Potter.

1795. Mr. Anderson (Robin Hood) and Messrs. Brady and Cazalet (Toxophilite Society).

Figs. 117, 118, are copied from a scarce print called the 'Graces of Archery,' by Ansel, published in 1794. It consists of ten separate caricatures (with verses underneath) of the Toxophilites at one of the Blackheath meetings, two of which are given as examples.

The Woodmen of Arden, Broughton Archers, and Lancashire Bowmen united in holding a meeting at Cannock Chase in 1791, and apparently a second meeting took place in 1792.[1] The Toxophilites, Robin Hood Archers, and Woodmen of Arden also shot together in 1792 at Mr. Anderson's grounds near Highgate, but these can hardly be classed as 'public' meetings, though they are interesting, inasmuch as they form a link in the chain of meetings held before the Grand National Archery Meetings proper were started in 1844.

Archery was taken up very strongly in the closing years of the last century, and some amusing matches are on record. A match was shot at 100 yards between Mr. Gilpin, Mr. Wyburgh, and Miss Littledale, in which the latter was victorious: during the shooting, which lasted three hours, Miss Littledale hit the gold four times, and, what evinces superior skill, the three last hits made by Miss Littledale were in the gold.[2] Good shooting indeed, if authentic.

Another match took place in 1792 at Chalk Farm, between Dr. Higgins of Greek Street, Soho, with gun and ball, against

[1] *Records of the Woodmen of Arden.* [2] B. M. MS. 6318.

Mr. Glenn of the Toxophilite Society, with bow and arrow, at 100 yards distance, the best of twenty-one shots at a target four feet in diameter. Mr. Glenn put in fifteen arrows, and won the match, Dr. Higgins only hitting the target twelve times. From this it seems as if Mr. Glenn must have been a very fair archer, and Dr. Higgins a bad gunner.

FIG. 117. 'The strength of Ulyses' (*sic*)
(*From the 'Graces of Archery'*)

For some reason archery, though so warmly taken up, seems to have soon gone down in popularity, as many of the societies started between 1780 and 1795 had but a very short existence. Probably the same reason that caused the Royal British Bowmen to cease holding their meetings (p. 203) operated in the case of other societies, and in the troubled times of the latter part of the last century more serious matters than archery had to be attended to. As times became more settled, and peace

assured, the influence of the few societies that remained at the beginning of this century began to make itself felt; more and more accounts of archery meetings appear in the papers and magazines; notices of old societies being revived and new ones formed become more frequent, till about 1830, when archery is again found to be a popular and fashionable amusement.

Archery meetings are reported as taking place at all the principal houses in the different counties, and the curious customs in vogue thirty years before crop up again: thus, in an account of a meeting held at Stowe in August 1826, we read that, after walking two and two to the shooting ground with arrows in their hands and bows slung at their backs, 'The prizes were distributed by the Duchess of Buckingham, and the victors, both ladies and gentlemen, were then placed on the targets and borne in triumph to the mansion of his Grace, preceded by a band of music playing "See the Conquering Hero comes."'[1] Some of the societies started in the period between 1820 and 1840 still survive, but most of the existing societies owe their origin, directly or indirectly, to the starting of the first Grand National, and were instituted subsequently to it.

The Queen, before her accession, was present at meetings of the Royal British Bowmen, and shot with the St. Leonard's Archers, who afterwards received the prefix 'Queen's Royal,' Her Majesty for some time annually presenting a prize to them. In 1844 the Queen also became a member of the Guild of St. Sebastian at Bruges, and in 1893 presented a prize to them on completing her fiftieth year of membership.

As the societies became more numerous the necessity of opportunities for larger gatherings than it was possible for one society by itself to hold again became apparent, and two or more of them combined to hold meetings together. As early as 1820[2] an attempt was made to hold a general meeting of archers in 1821, and a circular was printed and sent round suggesting that subscriptions should be obtained for procuring a piece of plate worth a hundred guineas, to be shot for at Catterick

[1] *Sporting Mag.*, vol. xvi. [2] MSS., R. T. S.

Bridge, in Yorkshire, on the lines of the Scorton Arrow competition. In 1834 also,[1] Mr. George Milner of Hull wrote letters to various societies, proposing to hold a national meeting of archers at some central town in 1835, but nothing came of either proposal. Archery meetings seem to have been held in the Manor Grounds, Chelsea, by A. P. Harrison (who

FIG. 118. 'Does that there fellow want to be shot?'
(*From the 'Graces of Archery'*)

in his book[2] styles himself 'teacher of Archery'), in 1833 or 1834; at Cremorne House in 1838,[3] on the occasion of the spring exhibition of the Royal Society of Horticulture; and others on a small scale took place at Hull and other places, but no really large public meeting was held till the first Grand National at York in 1844.

[1] MSS., R. T. S. [2] *The Science of Archery*, 1834.
[3] *Sporting Mag.*, vol. xcii.

CHAPTER XI

THE GRAND NATIONAL AND OTHER PUBLIC MEETINGS[1]

By Colonel Walrond

THE GRAND NATIONAL MEETING

It has been shown in the last chapter that public archery meetings have taken place in England for a very long period. Putting aside the earlier meetings or shooting matches held while archery was used in war, which correspond more to our present rifle meetings at Bisley than to meetings designed solely for amusement and display of skill, we have the 'feasts' held by the Finsbury Archers, the Scorton and similar meetings, and the Blackheath and Dulwich Meetings. The Finsbury competitions began in 1654 (or earlier) and lasted till 1761; the Blackheath and Dulwich Meetings existed from 1789 to 1795; the Scorton was started in 1673 and still continues; so that when the first Grand National Archery Meeting was started in 1844 there had been public archery meetings held continuously for about two hundred years. It is true that part of the time is only covered by the Scorton Arrow Competition, which,

[1] Five public archery meetings are held each year. The competition at all these is the same, the prizes being awarded on two days' shooting, on each of which the York Round (72 arrows at 100 yards, 48 at 80, and 24 at 60) is shot by gentlemen, and the National Round (48 at 60 and 24 at 50) by ladies. At two of these meetings, the Leamington and Crystal Palace, which, as implied by their names, are always held at the same place, there is no third day. At the other three meetings, which are held in a different place each year, a third or handicap day is added, on which sweepstakes are shot for, every archer receiving half the difference between his own score and the highest made on the first two days.

although open, was practically confined to the North of England; but this meeting it was which first suggested the idea of a Grand National.

The first Grand National Archery Meeting marks a completely new era in archery. The meetings held by the Finsbury Archers were feasts, pageants, and opportunities for display, the excuse for which was holding an archery meeting; fine clothes, banners, music, &c., were thought of more consequence than the actual shooting. The slow and cumbersome way of shooting two and two at a single target precluded the possibility of any large number of arrows being shot, and was of itself much against high scoring. Knowledge of the science of archery was absent, and the habit of drawing the arrow behind the eye made it out of the question for accurate shooting to be attained. This description of shooting was all very well in war, when the great object was 'to shoot a length' (namely, the same distance), and strong, but at the target it was out of place. In war it was necessary that the archers should shoot volleys of arrows which should reach the enemy, who was drawn up in several ranks, and pierce the 'pistol-proof' jerkins; for this accuracy was not required, and drawing to the ear was well enough, as it enabled a longer arrow to be drawn to the head, and greater penetration and range to be obtained.

On the 'revival' of archery the traditional way of shooting was followed, and consequently no good scores were made. As before stated, nothing could be done at the end of the last century without a large amount of parade and eating and drinking, so that we find at the Blackheath meetings and in private societies conviviality reigns supreme; and absurd customs, such as sounding a bugle when the gold was hit (which was done in one society till quite recently, if it is not continued to the present day!), crowning the winner with laurel leaves, &c., are common. We must not, however, be too hard on the archers of that time; it was the custom to do everything in the same way, and things which seem to us absolutely idiotic were looked upon then as quite correct.

We can scarcely imagine, say, after a Grand National at Cheltenham, seeing the champion with a wreath of laurel placed round his manly brow stalking solemnly in triumph at the head of the vanquished archers, marching two and two with banners flying to the strains of the best procurable German band, through the streets to the Queen's Hotel, to appear later at dinner in a clawhammer coat, and sit next the championess, both decked with evergreen headgear! Yet a hundred years ago it would have been done, and no one would have looked upon it as childish or silly. The majority of the archers of the 'revival' period were probably archers more for the sake of joining a pleasant company than for any love of the sport itself, the result naturally being that few, if any, efforts were made to improve the shooting, though the reverse was the case with regard to the dinner.

On the first Grand National being held we find quite a different state of things. Customs had changed, dining and show were beginning comparatively to take a 'back seat,' and men were commencing to think more of athletic pursuits; so that, though the first meeting or two did not produce any high scoring, competition soon brought about improvement.

The exact facts as to the starting of the first Grand National Archery Meeting are not very clear: the founders, with one exception, are dead, and it is a long time back to remember details. It seems, however, evident that the idea originated among the Thirsk Bowmen: the late Mr. Peckitt, writing in 1878,[1] says that he got the idea of holding a general meeting of archers from the Scorton Arrow Competition, and Mr. Higginson informed the writer that the first steps taken in this direction originated from a conversation which took place in his drawing-room. It is quite clear that it is to these two gentlemen, no doubt assisted by others, that archers are indebted for the starting of the meetings. The course pur-

[1] *Archer's Register*, 1884.

sued was to send out circulars to everyone interested in archery, asking their co-operation in holding a meeting at York. Mr. Gray, the secretary of the Thirsk Bowmen, did the clerical part of the work, and the result of his labours was that a 'general meeting of archers was held at the Black Swan Hotel, York, on May 14, 1844, for the purpose of taking into consideration the design of holding a Grand National Meeting of the archers of Great Britain at York during the ensuing summer.'

The correspondence received in answer to the circulars was laid before those present. It appeared that about sixty archers had intimated their intention of subscribing towards the proposed meeting, but this number was not considered sufficient to carry out the design in a satisfactory way. As, however, the idea had met with universal approbation, it was thought likely that more subscribers would be obtained, and the following resolutions were passed :—

That it is highly desirable that further steps should be taken towards carrying forward the proposed meeting, and further exertion used towards obtaining an additional number of subscribers, and raising an adequate fund for prizes, &c.

That the meeting should be held if a hundred archers shall send in their names as subscribers before July 1 next, and that the design be advertised as soon as that number is attained.

That the subscription be one guinea towards the fund for purchasing prizes to be shot for at the meeting, and that all subscriptions should be paid and the subscription list closed on July 15. All members who shall not have paid their subscriptions by that time to be excluded.

That the incidental expenses of providing targets and keeping the ground, &c., be paid in equal proportions by the archers who shall compete at such meeting.

That the meeting should be held during the first week in August.

That at such meeting the distances at which the prizes are to be shot for shall be 60, 80, and 100 yards, and that the number of arrows to be shot at each of those distances respectively be settled at a future meeting of the subscribers.

It was further suggested that the prizes should be allotted as follows, viz. :—

To the highest gross score
,, second ,,
,, greatest number of hits
,, second ,, ,,
,, most central hit
,, greatest number of hits in the gold

But that no archer shall take more than one prize.

That the Rev. J. Higginson and H. Peckitt, Esq., be requested to undertake the correspondence requisite towards carrying forward the design.

By order,
WILLIAM GRAY, jun.
Sec. pro tem.

These resolutions were sent to everyone who was thought likely to respond ; the result being that sufficient subscriptions were finally obtained, and the first Grand National Archery Meeting was appointed to take place on August 1, 1844, on the Knavesmire, York. It was decided that the meeting should last only one day, and that the round which had been shot for some ten years previously by the West Berks Club, consisting of seventy-two arrows at 100 yards, forty-eight at 80, and twenty-four at 60 (now known as the 'York Round'), should be adopted, prizes worth 125*l.* being offered to be competed for by gentlemen.

On the appointed day the weather was unfavourable. Six dozen arrows were shot at 100 yards, but not without several interruptions caused by heavy showers. After luncheon matters instead of improving became worse, and it was determined at five o'clock to postpone the remainder of the shooting to the next day, the archers present agreeing to share the extra expense caused by the adjournment. The second day proved more propitious, and the round was completed, the shooting being, according to a contemporary writer,[1] 'excellent,' though, as the highest scores were 76 at 100 yards, 93 at 80, and 77 at

[1] Hargrove, *Anecdotes of Archery*, 1845.

60, we should scarcely think so now. The prize list is worth comparison with one of the present day :—

The Rev. J. Higginson, highest score 221 (53 hits), vase 55*l.*
The Rev. E. Meyrick, most hits, 58 (218 score), cup 25*l.*
Mr. Peckitt, second score 176 (42 hits), plate 10*l.*
Mr. Muir, second number of hits, 43 (167 score), plate 10*l.*
Mr. D. Glasgow, most golds, 4, plate 10*l.*
Mr. J. Blundell, most central hit, cup 15*l.*
Mr. Gibson, most central hit at 100 yards, 4*l.* 4*s.*
Mr. W. Gray, jun., most central hit at 80 yards, 3*l.* 3*s.*
Mr. P. Wilkinson, most central hit at 60 yards, 2*l.* 2*s.*
Mr. G. Robinson, lowest score, 'wooden spoon.'

The last-named gentleman seems to have shot the whole round and scored 8 with two hits at 60 yards, a remarkable performance, which certainly deserved reward.

A committee was appointed to arrange a second meeting to be held on August 25 and 26, 1845 ; and they lost no time in setting to work, as, on August 16, 1844, they issued an appeal for subscriptions, stating that they intended to offer prizes worth 500 guineas. The circular of the meeting, sent out later, puts the first prize at 100*l.* ; but the winner did not obtain this sum, as the funds were insufficient. Six prizes were offered to ladies, who were to shoot ninety-six arrows at 60 yards, and eleven shot for the first time at a public meeting, their targets, which on the first day had been placed near the gentlemen's, being the next day moved closer to the grand stand for the convenience of the spectators. This, perhaps, accounts for no entries being forthcoming from ladies the next year ; it would be a bold secretary who attempted such a thing in these days. A third meeting was held at York, fewer competitors putting in an appearance among the gentlemen (eighty-three as against 110), and no ladies shooting ; but, in spite of bad weather, the improvement in the general shooting was very apparent, and there was a close contest for first place between Mr. Hubback and Mr. Meyrick, as the former scored 519 to the latter's 517, each having 117 hits. The third day's competition

was introduced at this meeting, and devoted to shooting at the popinjay, which was afterwards abandoned, the handicap being substituted. The first idea of instituting a Grand National Archery Society appears to have originated at this meeting, and a resolution was passed forming a society which was joined by several archers ; the scheme, however, does not seem to have been carried out, though the medals presented to Messrs. Peckitt and Higginson are inscribed 'Grand National Archery Society.'

Three meetings had now been held at York, and it was determined to try fresh ground ; but Messrs. Peckitt and Higginson, who had hitherto acted as honorary secretaries, not being inclined to undertake the management of a meeting elsewhere, resigned. The Revs. J. C. Pigott and O. Luard were appointed to take their places, and remained in office till 1860, when the former resigned, the latter continuing as honorary secretary till 1880. It was proposed to hold the fourth meeting at Nottingham, but this fell through, and eventually the meeting took place at Derby. Prizes were again offered to ladies, and six summoned up sufficient courage to appear at the targets and shoot 144 arrows at 60 yards. Next year (1848, again at Derby), the Ladies' Round was altered to six dozen arrows at 60 yards and the same number at 50, and the champion's medal was first shot for by gentlemen. being awarded on score. It was here that Mr. H. A. Ford made his *début* as an archer, and, as he tells us himself, he shot so badly that he never cared to see how far from the *bottom* of the list his score (341) was. A third meeting was held at Derby, at which the ladies shot for the first time what is now called the 'National Round' of forty-eight arrows at 60 yards, and twenty-four at 50, which, with the exception of the next year, they have shot ever since. The Championship was on this occasion awarded on points, instead of, as in the previous year, on score alone.[1] An instance of the value of

[1] It may be as well to explain that 2 points are given for total score, 2 for total hits, and 1 each for hits and score at each distance shot, making 10 points altogether for gentlemen and 8 for ladies.

nerve is mentioned by Mr. Ford as having occurred at this meeting. A certain archer—apparently himself—had backed himself to make a specified score; three arrows remained to be shot, and he was 18 points short of the required number, but with those three arrows he made three reds, and so won his bet. As he truly remarks, 'Not a bad quality is nerve.' The next meeting was held at Edinburgh, and, in addition to the ordinary prizes, special ones were offered for shooting at 100 feet, and 180 and 200 yards, these distances being practised by the Scottish Archers, who, however, were beaten at the two latter. The ladies on this occasion shot seventy-two arrows at 60 and thirty-six at 50 yards.

The meetings in 1851–3 were held at Leamington, and at the first of these the ladies mustered in greater force than they had ever done before, thirty-three being present; Miss Villiers's score, also, of 504 was a great advance on any previously made. In 1853 the medals for score and the 'spiders' or brooches were first given, the custom hitherto having been only to give a gold medal to the best shot. Two meetings took place at Shrewsbury, Mr. H. A. Ford in 1854 for the first time in public reaching 1,000 on the Double Round, and also putting all three arrows into the gold at one end at 100 yards, the latter feat having been repeated at a Grand National Meeting only once since, by the late Colonel Burton, at Worcester, in 1891. In 1856–7 the meeting was held in the College grounds, Cheltenham, and the two next years Exeter was visited. A proposal was made here in 1859 that the champion's gold medal should be given absolutely to Mr. H. A. Ford, who had won it eleven times in succession; but this was strenuously opposed by Messrs. Peckitt, Higginson, and others, and defeated. At Bath in 1860 there appeared at the targets the greatest number of competitors that have ever assembled together, no less than 99 ladies and 109 gentlemen being present.

Liverpool was chosen for 1861, the meeting being held at Aintree in very windy weather, so that no large scores were

made. This meeting deserves special notice in the history of the Grand National, as it was here that the Grand National Archery Society was founded. Up to this time the meetings had been held, as we have seen, annually, but there was, so to say, no solidarity about them ; the committee were self-elected ; if they had chosen so to decide, they need not have held a meeting at all, and there was no one who could call them to account. The good done to archery by the Grand National Archery Meetings can be seen by a reference to the table of winning scores which is given in Chapter XXIII., and the formation of the Society was doubtless another step in advance. It strengthened the meetings by placing them on a firmer basis, bringing them more directly under the control of the great body of archers themselves, who therefore naturally took more interest in them. The step taken at Liverpool was, therefore, an important one, and has resulted in permanent good.

The first meeting held by the Society was at Worcester in 1862, the weather being so unfavourable that the second day's round had to be finished on the Friday, the handicap being shot after luncheon. In 1863 Oxford was visited, and in the following year the meeting took place at the Alexandra Park. Here Mr. H. A. Ford had to retire after scoring 182 at 100 yards on the first day, his fingers being injured. A purse of 80*l.* was presented to Mr. O. Luard at this meeting in recognition of his services as honorary secretary. Clifton (1865) and Norwich (1866) did not produce any remarkable scores, the wind being somewhat difficult. Brighton (1867) was a good meeting as far as shooting was concerned—four ladies making over 600, and the first ten gentlemen being over 700. Financially, however, this meeting was disastrous ; what reserve fund existed was swallowed up, and a heavy whip had to be made at the next meeting at Hereford to make up the deficiency. In 1868 a change took place with respect to the score prizes ; up to this date there had been six score prizes for ladies (occasionally increased to nine), and ten for gentlemen, whatever the number of competitors ; but at this

meeting a sliding scale was introduced, regulating the number of score prizes according to the number of entries. The rule was also altered as to the medals, bars only being given to winners of score prizes who had previously won a medal. In 1869 the meeting was held at Aston Park, Birmingham, and was not a success. The weather was not good, the ground was badly kept, and the spectators, who by no means belonged to the 'upper ten,' could not be controlled. The rule as to the championships was altered, and it was decided that in future they should be awarded to the highest score, instead of on points; but this was again altered in 1872, and points re-established. On the second day of this meeting a silver wine-cooler was presented to Mr. C. M. Caldecott, who had for many years officiated as judge.

At Bath in 1870 the weather was fearfully hot, and more than one competitor suffered from its effects for several days afterwards; but the shooting was good, four ladies making over 600, and ten gentlemen over 700. Two meetings were held at Cheltenham; Leamington, Winchester, and Richmond (Surrey) being next visited. In 1876 at Sandown Park there was a close and exciting finish between Mr. H. H. Palairet and Major C. H. Fisher, as both gentlemen were 180 hits 770 score when the first-named, who had one arrow to shoot, was told by a friend that he must hit to win. His feelings may be imagined. However, he had to shoot; and the arrow *struggled* into a black, which won him the championship. Doncaster in 1877 was not well attended; the shooting was on the racecourse, which is very much exposed and open. Consequently, canvas has to be put up to keep out the public. It blew a gale; and what with the effect of the wind on the arrows, and the flapping about and continual blowing down of the screens, which distracted the aim, the '*shooter's* lot was not a happy one.' Next year at Tunbridge Wells the ground was small, and the targets at the entrance end suffered severely from carriages and people coming into the ground. The tents also were rather too close, and one archer, who was afflicted

with a 'bolter,' shot clean through both sides of one of the refreshment tents. The speed with which that tent was cleared was worth seeing!

A large meeting was held at Cheltenham in 1879. At Shrewsbury the next year the rain came down in torrents, and the ground soon became flooded; so much so that when the rain stopped, holes had to be dug in the ground close to the targets in order to drain off the water. There was one advantage, however, in this, for when an arrow missed the target, it was easy to see where it went. This was the last meeting at which Mr. O. Luard acted as honorary secretary; he had held the position for thirty-four years, and never missed a meeting. On his retirement he was presented with a cheque for 200*l.*, subscribed by archers from all parts of the kingdom, as a mark of their friendship. During the time he filled the difficult and somewhat thankless office of secretary, he did much to foster archery, and his pleasant and kindly face and genial manner were well known and appreciated by attendants at the meetings. Mr. Luard did not again attend a Grand National Meeting, and died early in 1883 at the age of seventy-eight.

Mr. H. H. Palairet succeeded Mr. O. Luard as honorary secretary, and his first endeavours were directed towards doing away with the necessity of the local guarantee, which was required from the towns visited by the Society in order to meet the expenses of the meeting. His idea was to raise among archers and their friends a sum, the interest on which would suffice to make up the yearly deficit. Something of the kind had been attempted before in 1868-69, and about 200*l.* was subscribed; but the whole of this was swallowed up at Birmingham in the latter year, and when the new honorary secretary came into office there was absolutely no reserve. To a certain extent Mr. Palairet has succeeded, and he has placed the Society in a far more satisfactory position than it was when he came into office, though it is greatly to be regretted that the 'Capital Fund' (the interest on which only can be used annually) is not larger than it is.

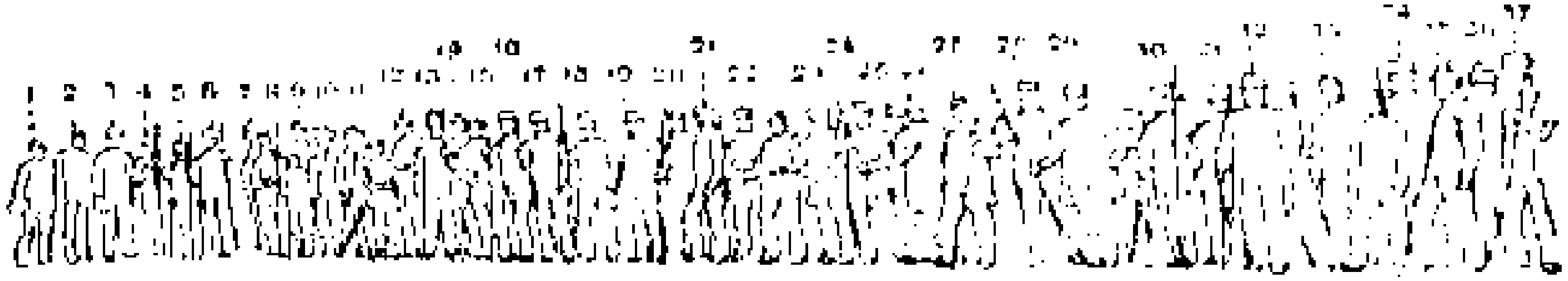
The first meeting under Mr. Palairet's management took place at Four Oaks Park, Sutton Coalfield, a gentleman's house which had been bought by a company, and converted into a sort of Birmingham Sandown. Extensive preparations had been made to refresh the crowds of spectators expected from Birmingham, who never turned up. As an archery meeting, however, it was a success. At Leamington in 1882 two new events were added to the prize list. The 'local prizes' were done away with, and 'associated club prizes' were substituted, these prizes being open only to members of societies which subscribe annually to the G.N.A.S. The 'County Competition' was also started, a challenge cup having been presented to be shot for by teams of six gentlemen from each county. An archer got rid of a spectator who was in his way in rather a neat manner at this meeting. He had shot rather a good dozen at 60 yards, and meant business, when to his disgust, on going forward to shoot (it was an end target), he found a dame of rotund proportions standing close to him. He requested her to stand further back, but instead of doing so she said, 'I have paid to see the shooting, and shall stand here.' With great presence of mind, he replied, 'Oh, very well; I was only afraid of my bow breaking, and if it should do so, the pieces will fly just where you are standing.' Profuse thanks and a rapid retreat followed. The meeting for 1883 was held at Cheltenham, and for the next year the Rev. S. Hawtrey lent the cricket-ground of St. Mark's School at Windsor. In order to avoid having buildings as a background, the targets were put rather too close together; but the ground was good and the weather fine, though rather too hot. Three gentlemen scored over 500 on the third day, which is not a common occurrence. The Ladies' County Challenge prize was instituted at this meeting, six transferable gold brooches of neat design having been bought by subscription. In 1885 the meeting was held on the College cricket-ground at Great Malvern.

It being thought advisable to hold a Grand National in one of the five Western counties, a joint meeting was arranged with

the Grand Western Archery Society to be held at Bath in 1886, and the largest gathering of archers that had taken place for sixteen years was the result. There was a shifting and different wind on both days, but there was some good shooting, as seven ladies made over 600, and Mr. C. E. Nesham scored over a thousand, which had previously never been done at a Grand National Meeting except by Mr. H. A. Ford, nor has it yet been repeated. It may be useful to note that on the second day Mr. Nesham's first two dozens were 11 and 4 respectively, which shows that one ought never to despair.

Meetings followed in 1887–88 at Cheltenham and York, and in 1889 Oxford was visited. Wet and high winds were the principal characteristics of this meeting, and, considering the weather, the scores were not bad. The position among the gentlemen at the beginning of the 60 yards on the second day was curious, as, whatever he scored, Mr. Gregson was safe to win the Championship, provided he did not drop nineteen arrows. Fine weather prevailed at Southampton in 1890, the reverse being experienced at Worcester in 1891, as it blew hard on the first day and rained on the second; but in spite of it, as has been before mentioned, the late Colonel Burton succeeded in getting 3 golds at one end at 100 yards. Eastbourne was an exceptionally pleasant meeting, though the smallest which has been held since the very early days of Grand Nationals, as the ground was good, the targets very well pitched, and the weather fine, notwithstanding a nasty wind at the 100 yards on the first day. The fiftieth or Jubilee meeting took place at York in 1893, the weather being most unfavourable, a strong and gusty wind blowing on both days. Scores were naturally not high, and among the gentlemen the Championship went to Mr. Gregson, who was tenth in score, as the points were very much split up, a result which was rather hard on Mr. Perry Keene, who has thus been twice highest in score, yet failed to secure the Championship. Mr. Higginson, who had won the first prize at the first Grand National, presented the prizes to the winners.

1. Mr. H. C. Palmer
2. Col. M. E. Ward
3. Mr. R. Caldwell
4. Mr. D. K. [illegible]
5. Mr. [illegible] Golightly
6. Capt. [illegible] H. Fisher
7. Mr. I. McKenzie Keith
8. Mr. E. R. Wallis
9. Capt. McKinnon
10. Mr. R. [illegible]
11. Mr. H. Burnard
12. Mr. J. J. Coulson
13. Mr. H. [illegible]
14. Mr. T. Watkin



15. Mr. N. Merridew
16. Mr. G. Maxwell Lyte
17. Mr. [illegible]
18. Mr. Muckleston
19. Mr. [illegible] W. Newman
20. Mr. W. [illegible]
[illegible] Mr. G. E. [illegible]
[illegible] Mr. W. S. [illegible]

[illegible] Mr. A. [illegible]
[illegible] Mr. W. [illegible]
[illegible] Mr. [illegible]
[illegible] Mr. [illegible]
[illegible] Mr. W. [illegible]
[illegible] Mr. M. [illegible]
[illegible] Mr. [illegible]
[illegible] Mr. [illegible] M. W. [illegible]
[illegible] Mr. [illegible] R. [illegible]
[illegible] Mr. [illegible] M. [illegible]
[illegible] Mr. [illegible] Penny
[illegible] Mr. T. [illegible]
[illegible] Mr. H. [illegible]
[illegible] Mr. [illegible]
Mr. W. [illegible]

THE LEAMINGTON AND MIDLAND COUNTIES MEETING

This was the first public meeting started after the Grand National. Three consecutive Grand Nationals were held at Leamington in 1851–53, and Mr. N. Merridew, who had acted as local hon. secretary to these meetings, determined to hold an archery meeting at Leamington in 1854, and endeavoured to obtain local support. In this he seems to have failed, and he started the meetings as more or less a speculation, which succeeded, as they have gone on ever since. Mr. Merridew continued as secretary till 1870, when he was succeeded by Mr. Bown, the bowmaker in Leamington, who carried them on till 1884 (the amount of the prizes depending on the number of entries), when he resigned the secretaryship, and the meeting lost its proprietary character, having been since managed more in harmony with the other meetings. From 1885 to 1887 the Rev. H. Skipwith and Mr. T. Galton Moilliet acted as hon. secretaries; they were succeeded by Mr. T. T. S. Metcalfe, who held office in 1888–89, and on his resignation the Rev. Eyre W. Hussey consented to act, and has done so ever since.

The Leamington Meeting is the first to take place each year, and is popular as a 'preliminary canter' for the others, the ground being good, though it is not liked by some archers on account of there being a fall on one side of it; but most of the best shots are constant attendants here. Some good totals have been made at Leamington, Mr. H. A. Ford having on six occasions scored over a thousand, and twice very near it (998 and 995). Mr. Edwards made 962 in 1859, and Mr. O. K. Prescot 924 in 1867. In 1885 the Championship of the Midland Counties was instituted, and three fine scores were made for it by Major Hawkins Fisher of 918, 926 and 982, in 1885, 1886 and 1887, the best recent score being 942, made by Mr. C. E. Nesham in 1890. The ladies also have distinguished themselves at this meeting; Mrs. Horniblow making 706, 719

and 769, in 1863, 1868 and 1871; Miss Betham 735, 701 and 743, in 1864, 1866 and 1867; Mrs. W. Butt 785, 730 and 707, in 1870, 1876 and 1877; Mrs. Piers Legh, after several scores of over 700, making in 1885 the highest total yet reached by any lady, of 864, from 142 hits. Miss Legh also made 817 in 1888, and Mrs. C. Bowly 768, 764 and 755 in 1891, 1892 and 1893.

THE CRYSTAL PALACE ARCHERY MEETING

This was the second meeting established as an offshoot of the Grand National, and owes its existence to the efforts of the late Mr. T. Aldred, who in 1858 persuaded the Directors of the Crystal Palace Company to hold an archery meeting the following year on their cricket-ground. Finding that sufficient support could be obtained, they engaged the services of Mr. N. Merridew as manager, and a successful meeting resulted, as it proved not only popular among archers, but also with the public, who came down in train-loads to see the shooting. Three more meetings followed under the same management, Mr. T. Aldred acting as hon. secretary. Though maintaining its popularity among archers, the interest of the public fell off, and consequently, on the Grand National being appointed to take place at Alexandra Park in 1864, the directors were inclined to drop the meeting, but by the exertions of Miss H. Chetwynd they were led to reconsider their determination, and the meeting took place, with J. Chetwynd, Esq., as hon. manager, he being ably assisted by the above-named lady, who pluckily herself undertook the management of the meeting the next year.

In 1866 doubts again arose as to holding the meeting (Miss H. Chetwynd having resigned in consequence of her marriage), and it was put, as it were, in commission, Mr. Peters, the bowmaker, taking the principal part in promoting it. From 1867 to 1871 Mr. R. Butt was hon. secretary, and he was succeeded by Captain (afterwards Colonel) Lewin, R.E., who resigned after holding office two years. In 1874 Mr. Chenery undertook the duties, but difficulties again arose with the

directors on pecuniary grounds, and the meeting of 1877 would have fallen through had he not himself guaranteed the requisite number of entries. Mr. W. Butt relieved Mr. Chenery in 1878 on that gentleman's leaving Anerley, and was in turn succeeded by Colonel Lewin in 1880, who, after three years, gave up the management to Mr. C. E. Nesham, who has successfully carried on the meetings ever since.

The Crystal Palace has always been one of the most popular meetings; the goodness of the ground, its general surroundings and easy access from London, must all contribute to its success, and it has been fortunate in being uniformly well managed. Though good scores have been made at the meeting of over 700, by Mrs. Villiers Forbes (752), Mrs. W. Butt (722), Mrs. P. Pinckney (729), Mrs. Horniblow (719), Mrs. Pond (700), Miss I. Carter (714), Mrs. Marshall (744), Mrs. Piers Legh (736), Mrs. J. F. Stilwell (733), Mrs. C. Bowly (786 and 822), Mrs. Yates Foot (752) and Miss Legh, who holds the record with 862, yet most of these ladies have done better (except the last named) elsewhere. Messrs. H. A. Ford, E. A. Holmes, W. Rimington, Perry Keene and Major Fisher have all exceeded 900, but the only gentlemen who have reached 1,000 at these meetings are Mr. H. H. Palairet, who scored 1,025 in 1882 with 221 hits, and Mr. F. A. Govett, who had 214 hits for 1,004 in 1893.

THE GRAND WESTERN ARCHERY SOCIETY

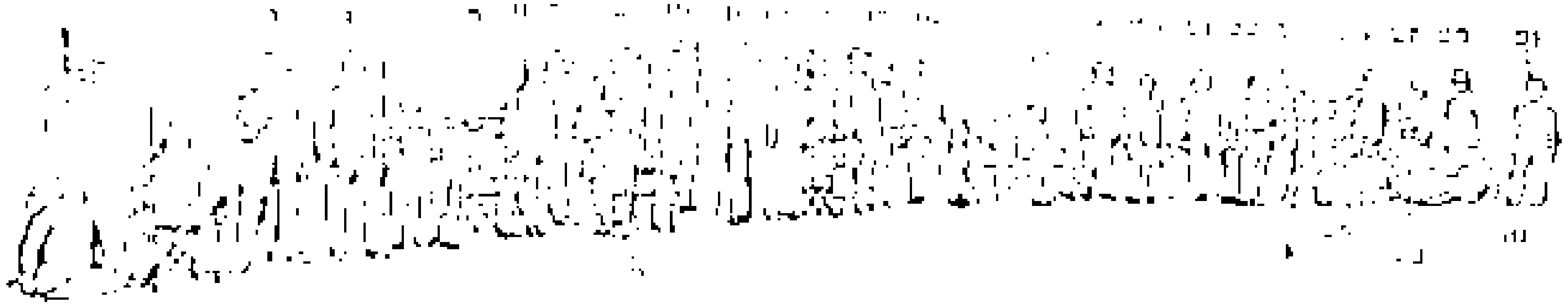
Meetings of the archers of Devon and Cornwall were held at Bitton House, Teignmouth—the seat of Serjeant Praed—from 1852 to 1857. These meetings were most liberally supported by Serjeant Praed, but on this gentleman's death in 1858 they ceased; and though the question of reviving them or holding them elsewhere was several times mooted, no one was found energetic enough to carry the matter through. The desire of having a meeting was, however, widespread among the archers of the West, and culminated at last in the archers present at a prize day of the Culm Vale Archery Society on

July 25, 1860, passing the following resolution: 'That an annual meeting of archers being members of some society of archers in one of the five counties of Wilts, Dorset, Somerset, Devon, and Cornwall, be held at some town in one of those counties . . . and further, that such meeting be called "The Grand Western Archery Meeting."'

The Rev. J. C. Pigot (one of the honorary secretaries of the G.N.A.M.) acted as honorary secretary *pro tem.*, and circulars were sent out and meetings held, the result being that the first meeting was held at Taunton on August 7 and 8, 1861, the Revs. J. C. Pigot and F. Warre, and T. Dawson, Esq., acting as joint honorary secretaries. The real working secretary seems to have been the latter gentleman, though he did not become sole honorary secretary till 1864; and to him belongs the credit of the great success of the first five meetings. The meeting at Taunton was conducted on a very ambitious scale: challenge prizes were subscribed for, badges given to the winners of prizes, and numerous local prizes obtained; and this being continued at the two next meetings held at Salisbury and Weymouth, increased the popularity of the meetings to such an extent that the committee of the G.N.A.S. grew alarmed, and began to look on the Grand Western more as a rival than as an auxiliary. In 1864 it was modestly suggested by the G.N.A.S. that the championships should be abolished, the badges no longer given, and that the meetings should cease to be peripatetic. As none of these points were conceded, Messrs. Caldecott, Ford, Hare, Luard, and Peckitt retired from the Committee. To quote the 'Ingoldsby Legends':—

Never was heard such a terrible curse!
But what gave rise To no little surprise,
Nobody seem'd one penny the worse!

and the meeting of 1864 at Exeter was larger than ever. No meeting took place in 1865, as the Grand National was at Clifton, but a large meeting was held at Weymouth the next



year. This was the last meeting at which Mr. T. Dawson acted as honorary secretary. No steps were taken to hold a meeting in 1867; but a committee meeting was called in the autumn, at which it was proposed to abandon the meetings, and let the challenge prizes be shot for by their respective winners in 1868, when they should become the actual property of the winners. No date was, however, fixed for this competition, the only two gentlemen who had won the challenge claret jug, Mr. H. B. Hare and Mr. Walrond, having expressed their intention of not consenting to this disposal of the prize. At the prize day of the South Devon Archery Club on July 7, 1868, at which both Mr. Hare and Mr. Walrond were present, a very general opinion was expressed that the Grand Western should be revived; and the latter gentleman agreed to do what he could to effect this. A good deal of correspondence ensued, but all difficulties were finally overcome; and at a meeting held at Taunton Mr. Walrond was appointed honorary secretary, which post he has filled ever since.

The first meeting after the 'revival' took place at Teignmouth in 1868, the grounds of Bitton being lent by Mr. Parson for the purpose, with a more modest programme than had been customary, the badges so much objected to by the Grand National, whether rightly or wrongly, being abandoned. Four meetings were held at Teignmouth; and at Sherborne in 1872 it was determined to form the 'Grand Western Archery Society,' which was started the following January, and has materially assisted the meetings which have since been held at Salisbury, Exeter, Bath, Weymouth, Taunton, Exmouth, Seaton, &c. At Sherborne in 1893 a handsome silver tea and coffee service was presented to the honorary secretary in remembrance of his twenty-five years of office.

Many fine scores have been made at these meetings. In 1879 Mrs. W. Butt made 744 and Mrs. Piers Legh 700, and Miss Legh's score in 1881 of 144 hits 840 score, though not the highest score made, is probably the best *shooting* that has ever been done, certainly if all three days are taken into account, as

she only missed one arrow altogether at the meeting, scoring 341 with 71 hits on the handicap day. Major Fisher's 225 hits 1,033 score in 1870 and 218, 1,060 in 1872 (the 'record' since Ford's time) were both very notable performances, and it was many years before anyone could share with him the honour of having made a thousand in public since the days of Ford. In 1875 Mr. W. Rimington scored 926, and in 1881 Mr. H. H. Palairet and Mr. C. H. Everett 982 and 907 respectively, the latter gentleman, however, having 215 hits to his opponent's 202. Mr. C. E. Nesham's score of 1,022 at the joint meeting of 1886 has already been noted.

THE GRAND NORTHERN MEETING

In 1879 the archers of the Northern Counties awoke to the fact that they were not so well cared for as regards public meetings as other parts of England. Possibly some enterprising archer, having wandered westward, had brought back a glowing account of a Grand Western Meeting visited by him under more genial skies than his own, and on his return expatiated on the delights of which he had partaken. However this may be, the expediency of having a meeting of their own was canvassed, and in September, 1879, Mr. J. Foster, jun., wrote a letter to the 'Field' suggesting that one should be started for the North on the lines of the Grand Western. The idea took, and a month later Mr. Foster again wrote to the 'Field' saying he had received so many promises of support that he felt justified in calling a meeting of archers at the Leeds Archers' Hall on October 30, to consider whether a Grand Northern Archery Meeting should be established, and if so to form a committee. The meeting was well attended, and a resolution was passed 'that an archery meeting to be called the Grand Northern Archery Meeting, for the six Northern Counties, and the counties of Chester, Derby, Nottingham, and Lincoln, shall be held in one of the said counties, and that a committee and secretary be appointed to make the necessary arrangements.' A strong committee was appointed, Mr. J. Foster being the

first secretary ; and the next year the first meeting was held on the Gentlemen's Cricket Ground at York, a large entry of shooters being secured, both of Northern and other archers. Mr. J. Foster was secretary for the three next meetings held at Liverpool, Harrogate, and Derby, the last two of which were distinguished by the inclemency of the weather, no scores of any consequence being made at any of them. From 1884 to 1887 Lieut.-Colonel Ainsworth and Mr. Gregson acted as joint honorary secretaries, since which time Major Stokes has filled the office. The meeting of 1886 at Lincoln was a very stormy one, and on the first day such was the violence of the wind that the ladies' tent was blown down bodily. In spite of this, however, what, considering the weather, may be called a phenomenal score was made by Mr. C. J. Perry Keene of 1,499 on the three days, 969 being the total of the first two days. On two occasions Mr. C. E. Nesham has scored 900 and upwards (964 in 1884 and 902 in 1890), and Mr. F. L. Govett made 903 in 1891, but otherwise the gentlemen's scores have not been high. Among the ladies Mrs. Eyre Hussey and Miss Legh alone have reached 700, the former lady scoring 709 in 1887, and the latter 720 in 1887 and 754 in 1892.

There have been other public archery meetings held at Holland Park, Aston Park, Brighton, and elsewhere ; but they ceased to exist after the first year or two, and nothing of special interest occurred at any of them.

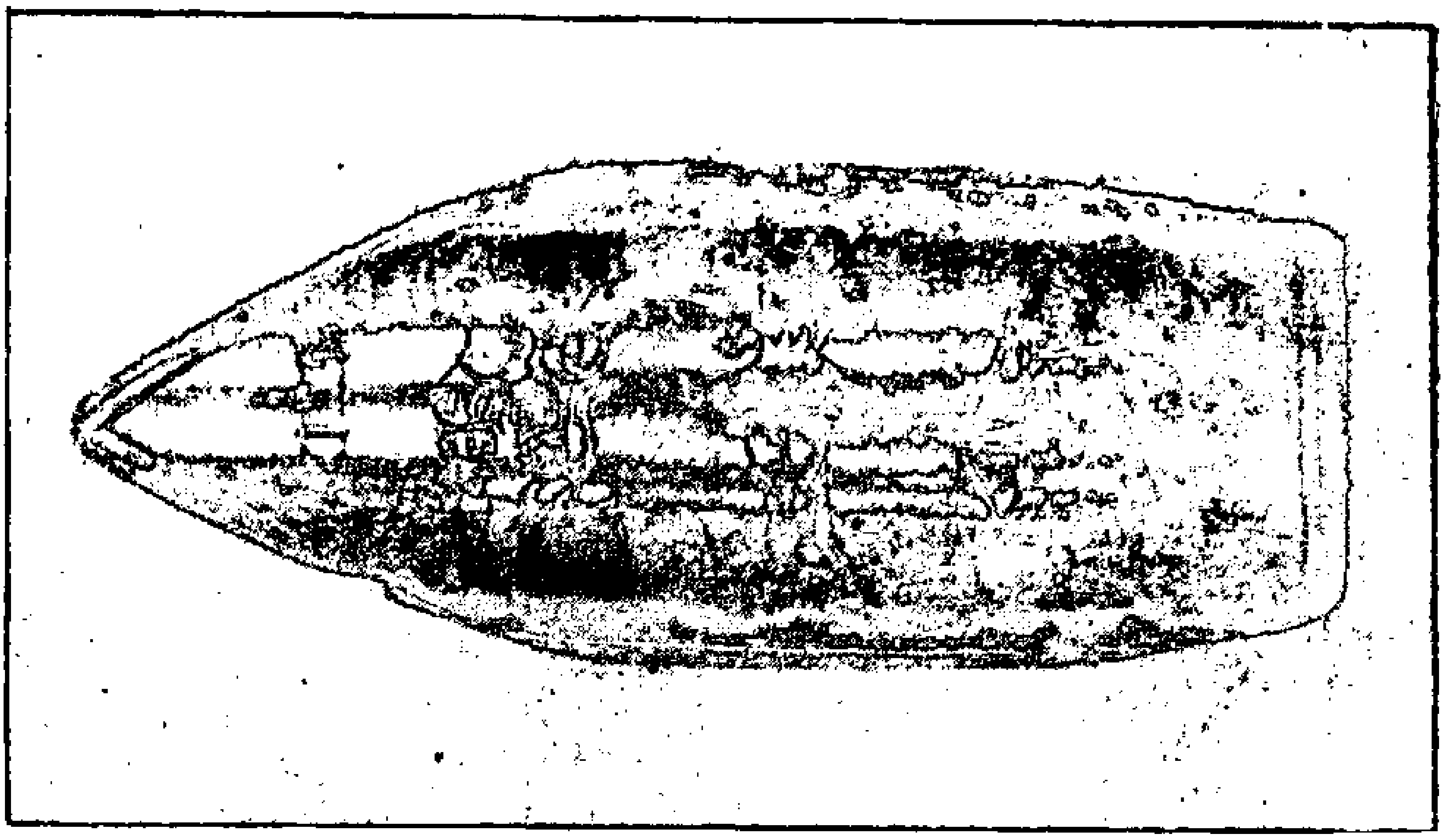


FIG. 122. Ivory Bracer
(*From the Collection of C. J. Longman, Esq.*)

CHAPTER XII

SOME OLD ARCHERY SOCIETIES

BY COLONEL WALROND

THE Royal British Bowmen [1] was one of the first societies formed after the revival of archery by Sir Ashton Lever at the end of the last century. The society met at Acton Park, Hawarden, Wynnstay, Eaton Hall, Gwyrsylt, &c., the best county families of Denbigh and Flint being members; and it was one of the first, if not *the* first, which admitted ladies on its roll. Several prints of the meetings are in existence; the frontispiece to this volume is taken from an engraving by Eames and Smirke of a meeting at Gwyrsylt, and is one of the

[1] I am greatly indebted to Sir R. A. Cunliffe, Bart. and Mr. D. Trever Roper for the loan of papers relating to the R.B.B. Sir Foster Cunliffe's *Records* lent me by the former gentleman supplied most of the information from which this account of the society was compiled.—H. W.

most pleasing archery prints in existence. From a note in Sir F. Cunliffe's 'Records,' it appears that the sketch for it was taken on June 12, 1789, and though the figures are especially said not to be portraits, the lady patroness is shown leaning against the target, and can be recognised by her hat being adorned with white feathers. Like all societies of the time, conviviality was well to the fore; they shot in the morning, lunched, shot again, and then dined and wound up with a dance and supper, at which original songs (the words of which are recorded) were sung.

The society was started in 1787, and flourished till 1794, when on January 4 the following resolution was passed:—'That on account of the several military employments which many of the members of this society have entered into, and which will probably take them out of the neighbourhood, there shall be held only three bow meetings this year, and the meetings afterwards cease till peace be restored, and our bowmen more at liberty to attend to the noble science of archery.' A sum of money is also voted for the purchase of 'flannel waistcoats and woollen stockings for the benefit of the soldiers now serving in Flanders.' In 1802 a few meetings were held, but on war again breaking out they were discontinued till 1819, when the Society was revived and lasted till 1880, in which year it ceased to exist.

Unusually full particulars of the early proceedings of the society are available for reference, Sir Foster Cunliffe, the first President and one of the chief promoters of it, having compiled MS. 'Records' of the R.B.B. from 1787 till 1794, the later information being supplied by the minute books. Sir F. Cunliffe was evidently a most enthusiastic archer, and his 'Records' are full of allusions to the pleasures of shooting. In one place he says: 'Many have taken up the bow with reluctance, but that reluctance soon vanishes, and is succeeded by a sort of fascination that not unfrequently people will practise from morning till night, without knowing how to quit the butts'—a fact which will be confirmed by the personal

experience of many a real lover of the bow. He built a covered range, thirty yards long, at Acton Park for winter practice, and his scores in cases where sufficient particulars are given for comparison show that he shot as well as most of the best archers of his time. There is at Acton Park a fine full-length portrait of him by J. Hoppner, R.A., in the uniform of the Royal British Bowmen, and in 1820 a gold case was presented to him by the Lady Patroness, on behalf of seventy ladies of the society, in recognition of his 'great attention and kindness in attending their target proceedings.'

Some of the Rules of the society are quaint; great care is taken to secure that the uniform shall be worn on all occasions, a fine of one guinea being imposed for a breach of this regulation, the only exception being 'ladies of 70 and gentlemen of 65 years of age,' and 'members in black glove mourning,' who might appear without it. The lady who won the Captain's Medal at the first meeting of the year (which was obtained by the first hit in the gold) became lady patroness, and was presented by the society with a hat and white feathers value 10*l.*, and this custom lasted till 1857, no other lady shooters being allowed to wear anything but black feathers in their hats.

The dining regulations provide that 'the dinner consist of cold meats (game, bacon and beans, and vegetables excepted), and in order to reduce the expense of the table as much as possible, that there be allowed only one row of dishes placed lengthways along the table.' Hothouse fruits are tabooed. 'Port and common white wine' only are to be on the table. A penalty of five pounds was decreed for breaking this rule, and it is only fair to say that it appears to have been incurred on many occasions.

The earlier records are naturally the most interesting. The first meeting took place on April 25, 1787, and at the second the title of the society was altered to 'Royal,' H.R.H. the Prince of Wales having accepted the office of Patron. Various societies send their Freedom, but the Royal British Bowmen explain that they cannot reciprocate by sending theirs to the

Royal Kentish Bowmen and Toxophilite Society, as these two societies consist of gentlemen only, who meet at inns, while the R.B.B. have lady members and meet under quite different circumstances. On July 17, however, the freedom of the society is sent to 'Sir Ashton Lever as the reviver of archery,' with an appropriate letter and the badge and ribbon of the society. On the same day we find that 'After dinner the Rev. Mr. Walters[1] was attended by nine ladies representing the nine Muses, one of whom placed a laurel wreath upon his head, crowning him Bard to the society,' verses being recited on the occasion. In 1788 there is an entry of 'Miss Byng proposed as a member in case she marries Mr. Bridgeman,' which seems to have decided the lady (if she ever had any doubt on the point), as later in the same year congratulations are sent to Mrs. Bridgeman on her marriage, and she is requested to consider herself a member.

At a meeting at Wynnstay on October 17, 1788, it is recorded that

The morning being perfectly fine, the Society met at 11 o'clock in the great room and marched two and two to the shooting ground, the music playing a new march composed for the occasion, and colours flying. On their arrival at the ground, a royal salute of 21 guns was fired from a battery erected for the purpose. The contest then began. The lady's prize was first determined in favour of Miss Harriet Boycott, who was invested with the badge by the President, as was, soon after, Sir F. Cunliffe by the lady patroness. A general discharge of cannon after each ceremony. The Society marched back to the house in the same order as before, except that the fortunate conquerors marched first, crowned with laurel.

After dinner the Society went into the great room, which was decorated with transparent paintings for the occasion.

At the upper end of the room was the figure of a Druid carving the words upon an oak, 'Royal British Bowmen, 1787.' Underneath, 'His Royal Highness George Prince of Wales, Patron.' On the left a figure representing Pan playing on his pipe; underneath, 'Sir Foster Cunliffe, Bt., President.' On the right a beautiful

[1] Mr. Walters was the editor of the Wrexham edition of *Toxophilus*.

female figure, holding a wreath of laurel; underneath, 'Lady Cunliffe, Lady Patroness.'

These pictures occupied the windows, and between the pillars at the lower end of the room were the badge of the Society, and crests and cyphers of the Patron, President, and Patroness. The organ represented a butt, on which was placed a target; the room was likewise ornamented with coloured lamps distributed with festoons of flowers and oak-leaves.

Full scores are given of each meeting, but, unluckily, the distances and numbers of arrows shot are seldom named, the size of the targets is uncertain, and a perplexing rule was in force, at some of the meetings, by which blank ends were shot over again (how nice this would be now!) The distances also varied. Ladies were to shoot targets at 60 and gentlemen at 90 yards; but minutes are made of silver arrows being bought to be shot for at 30 yards, so that no comparison is possible, except in cases where full particulars are given, and a few of these are selected, the scoring being altered to what it would be now—i.e. 9 for gold, 7 for red, &c.

September 16, 1791. Prince's Prizes. Ladies: 50 arrows at 70 yards; Gentlemen: 40 at 120 yards. Best scores:—

Miss Newcome, 16 hits, 54 score; Miss Bower, 13 hits, 45 score. Sir F. Cunliffe, Bart., 8 hits, 40 score.

August 13, 1792. Prince's Prizes. Ladies: 68 arrows at 70; Gentlemen: 52 at 100. Best scores:—

Miss A. Warrington, 20 hits, 84 score; Lady Cunliffe, 16 hits, 60 score. Sir F. Cunliffe, Bart., 23 hits, 83 score; Mr. Kynaston, 17 hits, 77 score.

August 13, 1793. Prince's Prizes. Ladies: 82 arrows at 70; Gentlemen: 84 at 100. Best scores:—

Miss Newcome, 22 hits, 86 score; Miss E. Newcome, 19 hits, 65 score. Sir F. Cunliffe, Bart., 21 hits, 63 score.

Not large scoring, but it must be remembered that archery was then in what may not inaptly be called its second childhood.

Sir F. Cunliffe, referring to a meeting at Hardwick in 1792, says: 'After supper, when it was quite dark, Mr. Kynaston

fixed up bosses near the house, on which were placed paper lanthornes, with small wax candles in them for marks to shoot at. At first it was difficult to hit the boss. Sir F. C. observed that all his arrows went to the left, but in a short time, by paying attention to that circumstance, the difficulty was overcome.' An interesting entry, as it is perhaps the only contemporary record of this class of shooting, though we know it was practised. He closes his 'Records' with the following words :—'Most of the gentlemen of the society having entered into some military employment for the defence of the country, our bows and arrows are hung up and have given way to the broad sword and musket.' And he gives a list, from which it appears that, of the sixty-six gentlemen members, all except fifteen (exclusive of eight clergymen) served in some way for the defence of the country.

Many more extracts might be given, but space will not allow this to be done, and those chosen are sufficient to give an idea of the curious things (as we should now deem them) which our ancestors did a hundred years ago.

In July 1802, after the Peace of Amiens, a meeting was called, and resolutions were passed, the first of which is, 'That peace being happily restored, the society do resume the bow,' and a few meetings were held ; but, war being again declared in May 1803, they seem to have been once more discontinued. In the autumn of 1818, steps were taken to re-establish the society, and the first meeting was held at Acton Park, Sir Foster and Lady Cunliffe being once more ardent promoters of the gatherings. H.R.H. the Prince Regent was asked again to become Patron, to which he consented, and expressed his intention of giving prizes as before ; and the society continued to receive royal prizes till 1847, when they were discontinued. In 1821, a new form of target was adopted, having two vertical parallel lines, the width of the gold drawn down it, and hits within the two lines scored one point additional, which makes any comparison of scores hopeless. Some ladies, contrary to what is popularly supposed usually to be the case, seem to have

claimed to be older than they really were in order to be allowed to appear out of uniform, as in 1822 or 1823 a resolution was passed that 'positive proof' of age should be required. There are few entries of general interest in the later minutes, and the scores are of the ordinary character.

The Royal Kentish Bowmen were founded in 1785 by Mr. J. E. Madocks, who appears to have been a well-known man in his day. The first year the number of members was limited to twelve, and the society met at Mount Mascal, but the next year it was enlarged and the meetings took place on Dartford Heath. H.R.H. the Prince of Wales accepted the office of patron in 1789, and the society soon became both numerous and fashionable. A piece of ground was selected on Dartford Heath, which was levelled and planted, butts were put up, and a lodge or hall and other buildings erected. For a time the meetings were very popular, conviviality being paramount, and frequent mention of them can be found in the memoirs, &c. of the time. After the shooting, dramatic entertainments, balls, and other amusements took place, to which a large number of guests were invited. The war, however, seems to have put an end to the society, which was never revived, as Mr. Dodd[1] (who seems to have been their poet laureate), on visiting the spot fifteen years after, found the buildings abandoned, and the place, which had once been a fashionable and well-laid-out shooting-ground and garden, fast becoming a wilderness. Of the archery doings of the society little is known beyond what appears in the newspapers of the time, and from this it does not seem that they shot any better than their neighbours. The cut of H.R.H. the Prince of Wales in the uniform of the R.K.B. is copied from a fine print by Bartolozzi of the original picture by J. Russell, R.A., which was probably painted for the society, and is now in the possession of H. Madocks, Esq., who also possesses some interesting relics of the Kentish Bowmen in one of the Prince's bugles, which was won by Mr. G. E. Madocks in 1789, and a fine 'Toby' ware

[1] *Ballads of Archery.*

Fig 133. H.R.H. [illegible]

[illegible]

From a Print by Bartolozzi

punch bowl with two silver rims, the upper engraved with the crests and monogram of the society and inscribed 'G. Casvall dedit April 12, 1789,' the maker's name, 'Brasbridge fecit,' being on the lower. The society offered gold medals for the best glees, &c., to be sung at their meetings, a book having been printed of those sent in for competition, and from their 'Harmony Fund Accounts' it appears that they engaged the best available musical talent of the day.

The society of John o' Gaunt's Bowmen, meeting at Lancaster, was one of the societies started soon after the revival of archery, though it must be mentioned that it claims to have existed before, and only to have been revived in 1788, the date at which we first hear of it in the last century. Like many of the other societies of that day, no records of its doings are obtainable, nor is it certain for how many years it lasted; but in 1820 the society was again revived, and since then it has been one of the leading ones in the North, and has taken a prominent part in supporting the public meetings, especially, as might be expected, the Grand Northern. In 1888 the society celebrated its centenary by holding a two days' meeting followed by a fancy dress ball, at which many of the members wore the uniform in vogue in 1788. The society has never been numerous, the number of members having been limited in 1788 to twenty-one, subsequently increased to thirty, which remained the limit till 1888, when it was again increased to forty-two. In spite of this, however, many of the members have taken high places at the Grand National and other public meetings, two of them having won the championship.

The Union Society was established at Harlow in 1790, removed to Harlow Bush Common in 1792, and was composed of ladies as well as gentlemen. The rules are much the same as those of the other societies: they shot, had suppers and dances, and enjoyed life generally. Like many of the old societies, they scored differently from the manner now usual, as the gold counted 5 instead of 9, the red 4, inner white 3, black 2, and white 1. What is curious about them is

that the colours of each lady and gentleman are given in the list of names at the end of the book of rules, two French mottos having been also adopted by each, the use of which it is hard to understand. One lady with orange as her colour calls herself 'La Novice, La Parfaite'; another takes green, purple, and pink, and has as her mottos 'L'Infidelle (*sic*), La Jalouse.' One gentleman has chosen 'La (*sic*) Jolie, La (*sic*) Lourde,' and as all the gentlemen's mottos begin with 'La,' it is to be hoped that they knew more about shooting than they seem to have known of French. Their shooting regulations provide that they shall shoot at fifty and seventy yards, and that whoever hits a target at a shorter distance shall buy a new one.

The Royal Foresters claim to have been instituted in 1674 and revived in 1812. Their rules are printed in a small book which is adorned with five illustrations of their regalia. It starts with a preamble as to the decay of archery, and states that the society is established for its encouragement. They appear to have aimed at being very select, and were to be ruled by a 'caput,' who was to be a peer of the realm. The rule as to the election of a candidate runs: 'A candidate for admission shall prove the gentility of his descent on his father's side at least for three generations' (A note is inserted here, perhaps sarcastically, but certainly with truth: 'This was the qualification established by James I. for the order of baronets, but it has not been observed since that time'), for which purpose he shall transmit his pedigree of three descents to the registrar (prior to the ballot), which must be verified on oath, together with the following certificate of the respectability of his character . . . signed by a beneficed clergyman, a barrister-at-law, and a field or flag officer, who must name the benefice, inn of court, and regiment or ship to which they respectively belong'—which seems to be rather a tall order. The subscription was twelve guineas 'and more if required,' and the entrance fee five guineas. They met at the Thatched House in St. James's Street, but probably did not do much besides printing their rules and dining together, as a note

dated 1817 in Miss Bankes's handwriting says, 'They have not yet shot or had bows and arrows.'

The Hertfordshire and Hatfield Archery Societies were established mainly through the exertions of Lady Salisbury, who was herself skilled with the bow. The cut here given, which is taken from the 'Ladies' Pocket-Book' of 1791, is interesting, as it includes portraits of the Duchess of Leeds, Lady Salisbury, the Hon. Miss Grimstone (to whom the bracer

Duchess of Leeds, Marchioness of Salisbury, Hon. Miss Grimstone, Miss Seabright

FIG. 124. The Hertfordshire Archery Society

referred to on page 161 formerly belonged), and Miss Seabright; and, from the fact of the execution being better than is usually the case in contemporary works of the kind, they are probably fairly accurate.

Many other old societies could be named, but sufficient examples have been given to enable the reader to form an opinion of what they were like, and to judge of their peculiarities.

Of modern societies it is impossible to give details in the space available. The Herefordshire Bowmen are one of the oldest of the societies founded at the beginning of this century, and still retain many of the customs in vogue at that period. They do not shoot a stated round, but vary it according to circumstances, all their shooting, however, being at sixty yards. The West Berks Society (founded in 1831) enjoys a constitution peculiar to itself, as it is limited to twelve members who meet at each other's houses in various parts of England to shoot the York Round. Their Autumn Handicap, however, 216 arrows at 100 yards, is shot on the ground of the Royal Toxophilite Society. The Devon and Cornwall, also an old society, are perhaps unique in one way, as they are the happy possessors of a spacious pavilion round which are hung the coats-of-arms of all the ladies who have filled the office of lady paramount from the institution of the society, and their ground is in every way admirable, being situated at Manadon, the seat of the Rev. J. Hall Parlby, near Plymouth. In common with many other societies, the gentlemen shoot the York and ladies the National Round. In a majority of the societies of the present day the ladies shoot the National Round and gentlemen four dozen at eighty, and two dozen at sixty, the latter being too much addicted to shirk the hundred yards, not knowing the enjoyment that can be got out of shooting that distance. In some clubs even eighty yards is an unknown distance, and the men are contented to shoot innumerable arrows at sixty yards, thinking they have done wonders when they succeed in getting two-thirds of their arrows in the target at that distance. Why do they not follow the example of the Somerset Society, who, on finding in 1822 that they did not hit much at eighty and sixty, 'put the targets at twenty yards apart, when the result was much more satisfactory'? They might just as well do so.

CHAPTER XIII

SCOTTISH ARCHERY

BY J. BALFOUR PAUL

Lyon King of Arms

ARCHERY never flourished in Scotland with that vigour which it displayed in the sister kingdom. The bow was, of course, used from early times both as a weapon of the chase and for purposes of military warfare; but it required the fostering care of the sovereign to make its use at all efficient for the latter object, and whenever the royal attention was withdrawn from it the practice of archery perceptibly declined. The references to archery, however, in the 'Statute Book' and other ancient records of the kingdom are numerous. We are told, for instance, in the 'Leges Forestarum' that a man following his dog into the king's forest must divest himself of his bow and arrows or bind them with the bowstring. The importance of the bow as a military weapon early impressed itself on the minds of the Scottish kings. Robert the Bruce ordered every person worth a cow to have a spear or a good bow and sheath with twenty-four arrows; and in the reign of his son we find Scotland able to promise to send a contingent of archers to the assistance of the king of England if required. It was James I., however, who seriously set himself to encourage the practice of archery in his country. All persons above twelve years of age were ordered to be archers; bow-marks were to be set up near every parish kirk, and persons not practising were to be fined. All merchants, too, were to bring home bow-staves in proportion to the amount of their cargo.

James II. was even more peremptory in his injunctions than his father : football and golf—evidently more popular pastimes then as now in Scotland—were to be 'utterly cried down and not to be used' ; shooting at the butts was to be practised every Sunday from Easter to Allhallowmas, each man having to shoot six shots at least under a fine of twopence to be paid as drink-money to those present. James III. and James IV. made very similar enactments regarding shooting with the bow. In the reign of the former the uniform of an archer consisted of a 'brigandine,' or jacket composed of rings or small plates of metal sewed on leather, or quilted between folds of canvas or fustian. Scottish battles, however, were not destined to be won by skill in archery ; and Parliament ceased to insist on its practice after the reign of James V. By that time, indeed, the bow was nowhere so much used as a weapon of war as formerly, but we have traces of archery as a pastime. Mary Queen of Scots was very fond of it ; she had butts in her gardens both at Holyrood and St. Andrews, and in one of the inventories of her effects mention is made of a velvet glove which she used when shooting. Shortly after the murder of Darnley, in 1567, we find that she and Bothwell won a dinner from the Earl of Huntly and Lord Seton in a match at Seton Castle. It is probable that all the shooting at this period and for long after took place at butts or at the papingo or popinjay. The latter continued to be a popular country sport for many years. There is a tradition that it was practised at Kilwinning so early as 1482, and in a deed of 1665 reference is made to the papingo set up by the magistrates of Irvine : 'conforme to old antient practices so that the Burgessis might adres themselffs theirto with their bowis and arrows.'

There is no doubt that early in the seventeenth century archery was practised in many Scottish towns, and prizes given for proficiency among the competitors. The Musselburgh Silver Arrow, which is still shot for by the Royal Company of Archers, but which was originally open to all comers, has one medal attached to it bearing the date 1603 ; and there is at

least one other undated, probably of a still earlier year. The latter is in the shape of a bell such as is used for a child's rattle, a form in which prizes for horse-racing were frequently made at the end of the sixteenth and beginning of the seventeenth centuries. Among other ancient silver arrows which testify to the practice of archery in Scottish towns in bygone days may be mentioned that belonging to the burgh of Peebles (also still shot for by the Royal Company), its earliest medal bearing the date 1628; and three arrows belonging to the University of St. Andrews, which were competed for annually by the students of St. Salvator's and St. Leonard's Colleges. The earliest medal is of the year 1618, and several of them bear names which afterwards became famous in Scottish history. These university competitions, however, do not seem to have continued beyond 1751.

It will be observed that all the trophies above mentioned belong to places in the east of Scotland; but it was in the west of the country that, in earlier years at least, archery chiefly flourished. Reference has been made above to the papingo at Irvine in Ayrshire, but the head-quarters of that form of shooting were undoubtedly at Kilwinning. The records of the Society of Archers there commence in 1688, and were kept without a break down to 1870, when the last meeting (held only for business purposes) took place. The Annals open with the following statement:—

Shooting with Bow and Arrow at Butts and Papingo has been used and practised at Kilwinning by the inhabitants thereof for the space of two hundred years and upwards. The prize shot for at the game of Papingo in former times was a piece of fine Persian taffetie, three ells long and three-quarters broad, of several colours —red, blue, green, scarlet, &c.—to the value of twenty pounds [Scots] at least, which they termed a Benn.[1] The person who gained the same by shooting down the Papingo on the day appointed for that effect had the said benn tyed about his waist as a badge of honour, and was thereupon denominated Captain;

[1] Benn, or bend, a handkerchief or muffler; French, *Bende, Bande.* See Jamieson's Scottish Dictionary, *sub voce.*

and, making a parade through the town attended by the former Captains, each wearing about their waists the Benns they had gained, and accompanied by the rest of the Archers, each change-keeper brought forth to them ale and other liquors to drink the Captain's health, &c. The said antient game turning into disuetude for some years, was restored and again renewed at Kilwinning on the 4th day of September, 1688—

by certain gentlemen who are named, three of whom appear also in the earliest list of members of the Royal Company: How the shooting was conducted when the abbey was entire we do not know; but after the wreck of the buildings in 1561 the fine north-west tower survived, rising to a height of 105 feet. From its summit the wooden figure of the popinjay, painted green and red, supported on the upturned end of an iron spike attached to a pole, several feet in length, was projected into the air. It was then shot at from below. In the early part of this century the tower was seriously damaged by lightning, and was afterwards almost entirely rebuilt. In early times an open space probably surrounded the abbey, but after its demolition this was encroached upon by buildings and partly occupied as a burying-ground, many of the tombstones in which bear to the present day the marks inflicted on them by falling arrows.

There were three Societies of Archers in Kilwinning—the Gentlemen's, the Tradesmen's, and the Juvenile or 'Callans'.' Each competitor wore a bonnet of white and green with a red top. The benn was latterly not 'Persian taffetie,' but a broad pink silk ribbon with a narrow band of gold lace running down the centre. There is a fine silver bow and arrows belonging to the Kilwinning archers, with one gold and 117 silver medals attached. The oldest of these is dated 1697, and bears the name of David Muir, an ancestor of the late well-known Peter Muir, bowmaker and archer. This trophy continued to be the prize gained with the captaincy till the sports came to an end. It was shot for after dinner, the retiring captain having first shot an arrow over the ruins of the abbey in token

that he had discharged himself of his office. The winner was 'crowned' by being patted on the head by the members present, invested with his benn, and then, marching at the head of the archers, he proceeded to the Cross, where a reel was danced.

The town of Irvine has already been mentioned as being the seat of a similar competition at the papingo. The archers there, however, do not seem to have formed themselves into a regular society till 1814, when the Irvine Toxophilites was constituted—a body which survived its jubilee by a year or two. The most important occurrence in its history was the fact that its members, to the number of sixty, served as body-guard to the Queen of Beauty, Lady Seymour, at the famous Eglinton Tournament in 1839. In recognition of their services on that occasion Lord Eglinton presented the society with a challenge prize, a gold belt and quiver set with carbuncles, which since the dissolution of the body is in the possession of the town of Irvine. Besides shooting at butts—the mark in their case being a paper twelve inches across, divided into six circles, while that in use at Kilwinning was nine, divided into three—the Irvine Toxophilites shot at an 'elevated target.' A small target, eighteen inches across, was fixed to the top of a pole rather over thirty feet in height, and was shot at from a distance of forty yards.

Several other societies of archers flourished at various periods in the West of Scotland. Among these may be mentioned the Zingari Archers, chiefly composed of Montgomeries, Boyles, and Hamiltons. The Dalry, Saltcoats, St. Mungo, and Kinning Park Archers were all for a time prosperous, but have been for many years extinct.

For a good many years in this century a Scottish National Archery Meeting was held annually with considerable success, at which the York Round for the gentlemen and the National for the ladies was shot. One of the largest meetings was that at Eglinton Castle in 1858, when seventy-five gentlemen and twenty-five ladies competed. The attendance at the

meetings, however, gradually got smaller, and they were entirely abandoned some years ago.

THE ROYAL COMPANY OF ARCHERS

While archery was thus practised in the provincial towns of Scotland, it is not likely that it would be neglected in the capital itself. The annals of the Royal Company, dating as they do so far back as 1676, may fairly claim to be the oldest records of any society in Scotland, and, probably, in the United Kingdom. It has, indeed, been suggested—though there is really no evidence on the subject—that the Company is a survival of the old Scottish Archer Guard of France,[1] but in sober fact it is quite ancient enough to be able to do without such a mythical pedigree. In the year above mentioned certain 'Archers and Bowmen residing within and about the City of Edinburgh' resolved

> to enter and list themselves in a particular Society and Company for Archery and Shutting with Bows and Arrows, to be called His Majestie's Company of Archers in time coming, which may not only be a nurserie for Archers in these parts, but may likewise be a ready mean to raise ane emulation in others, and incourage them to use and practise Archerie in other places of this His Majestie's Antient Kingdom.

By the constitution of the Company, which has remained practically unaltered to the present time, it was provided that there should be an executive of seven members, called the council, elected annually; there were to be three judges for the determination of disputes in shooting, a clerk, treasurer, and other officers. The entry-money was fixed at a minimum of fifty-eight shillings Scots; public butts were to be erected,

[1] For information relative to this interesting body, over which Scott has in 'Quentin Durward' thrown the usual glamour of his genius, see *Papers relative to the Royal Guard of Scottish Archers in France*, Maitland Club, 1835; Hill Burton's *The Scot Abroad*, i. 43, and *The Scots Men-at-Arms and Life Guards in France*, by W. Forbes Leith, S.J. 2 vols. Paterson, Edinburgh, 1882.

and a prize of a silver arrow, or other piece of plate, was to be shot for annually. No uniform was at first required, the only distinctive badge of members being 'the Company's seal and arms on their Hatts or Bonnetts.' The laws then drawn up were submitted to the Privy Council of the king, and by them approved : so the Company was started under due sanction from the Government. For a year or two we are told of several meetings being held, but from 1679 to 1703 there are no records extant. In the latter year, a charter of incorporation was granted to the Royal Company by Queen Anne, the *reddendo*, or service to be performed, being the presentation of a pair of barbed arrows on Whitsunday if required. The members also took part in a competition which deserves some mention—the ancient sport of shooting at the goose.

They went to the buts (we are told), where a living goose was fixed a convenient distance from the north but, and nothing but her head in view. The same was shot through by the Captain-general (Viscount Tarbet), the arrow entering the left eye and going out a little behind the right eye, about four inches quite through, so as she never moved after she received the shot.

This cruel sport, in which the unfortunate bird was buried in turf, the head only being left out, continued to be practised for many years, as it is only about 1764 that the item of 'half a crown for a goose' disappears from the treasurer's accounts. The competition is still kept up, but the prize is now a medal, and the goose's head is represented by a small glass globe of about an inch in diameter placed in the centre of the butt-mark, which is a circular piece of cardboard four inches across.

In 1713 the following rule was adopted for shooting at 'rovers,' or long-distance shooting, a form of archery which the Royal Company have always kept up in preference to shooting at the shorter ranges which are usual in England. 'Any person who shall touch or pierce the mark shall carry the shot before any other that does not touch or pierce, though he be nearer to the mark.' It will be kept in view that the targets

in those days were not made of plaited straw and canvas, but simply a square piece of canvas stretched on a frame without any backing, and called 'the clout.' The holes made by the arrows in going through it, or, to speak technically, in 'making clouts,' were at the end of shooting pasted over with paper, so that the marker might know next day what were new shots. At present the usual outdoor range at which the Royal Company practise is 180 yards; one prize is shot for at 200. All arrows within 24 feet of the target (which is smaller than those used for shooting at 100 yards and less) count, the nearest being the shot. A 'clout' counts two, whatever circle of the target may be hit.

It is interesting to note that, even in the early days of the Company, while arrows and bowstrings were imported from abroad—principally from Ghent—bows were made at home by the Company's own bowmaker, and from native wood. In 1727, Mr. Colquhoun of Luss allowed the Company to cut some of the yew wood on one of the islands in Loch Lomond, and the Company's officer accordingly brought home two cart-loads. At a later period the council ordered all bows made by their officer to be stamped, so as to bear evidence of the work having been examined and approved; but this practice did not remain long in use. The records of the Company do not, for many years in the last century, contain much of out-standing interest, but it is gratifying to observe that the shooting was kept up with great zeal, and many valuable prizes were provided for competitors. Among notable shots of the period may be mentioned Mr. St. Clair of Roslin, who joined the Company in 1721, and died præses of the council in 1777; and Dr. Nathaniel Spens, probably one of the best and most enthusiastic archers who ever drew a bow. A noble portrait of him by Raeburn, representing him in the act of shooting, now hangs in Archers' Hall; he was admitted a member in 1749, became præses of the council in 1809, and died in 1815. The shooting must have been very good for many years, and some notes thereon are not without interest. We are told, for

instance, that a party of six were engaged in a match in 1781 (presumably at the usual distance of 180 yards), when one of their number won eight successive ends and nine successive shots in those eight ends. In 1794 we read of a special meeting being held to eat a hare which had been shot by Sir James Pringle, the president of the council, with an arrow. And there is a tradition of a later time, to the effect that a jovial party of archers shot, dined, and slept at Archers' Hall for three consecutive days and nights, their servants coming every morning to shave them.

In 1822, on the occasion of the visit of George IV. to Edinburgh, the Royal Company tendered their services as bodyguard, which were accepted, and the Company occupied a conspicuous position in the various ceremonials which then took place. At the beginning of the following reign the king conferred a further honour on the Company by presenting a gold stick to the captain-general and a silver stick to the next two general officers, thus putting the Company on a footing with the Household Brigade in London; the council also received seven ebony sticks. At the coronation of William IV. the captain-general, as gold stick of Scotland, walked immediately after the gold stick of the Life Guards, a position which he also occupied at the coronation of Her Majesty the Queen. It may also be noted that a handsome stand of colours was presented to the Company by William IV.

In 1842 the bodyguard was again on duty during the visit of the Queen to Scotland in that year, and the subsequent occasions on which their services were similarly called into requisition were at the Volunteer review in 1860, in 1876 when Her Majesty unveiled the statue of the Prince Consort in Edinburgh, in 1881 at another Volunteer review, when the weather was of such an atrocious description that the Duke of Cambridge remarked, 'This is like active service'; in 1886 when the Queen visited the International Exhibition at Edinburgh, and at a similar ceremony in Glasgow in 1888. On all these occasions, except in 1881 and 1888, the *reddendo*

of barbed arrows, by which the Company holds its charter, was duly presented.

The shooting practised by the Royal Company differs considerably, as has been indicated above, from that in use by most other societies of archers. The distance most favoured is 180 yards, and out of eighteen prizes, of which almost all are competed for annually, twelve are shot for at that distance, one at 200 yards, four at 100 yards, and the remainder at the butts. This being the case, the members do not often come into competition with other societies whose custom it is to shoot at the ranges more generally favoured in England. But kindly relations have for long been cultivated by sister societies; in 1785 and 1786 diplomas conferring the freedom of their respective bodies were exchanged between the Toxophilites of London and the Royal Company, and similar courtesies were exchanged in 1787 with the Woodmen of Arden, and the warden of the latter society, Lord Aylesford, was made a brigadier-general in 1788, when he happened to be in Edinburgh. The intimacy then begun has been revived in recent years, and several pleasant meetings have taken place between the two bodies both in England and Scotland. The freedom of this Company has also been accorded to the Society of Bowmen of the Border, now extinct, and to the Royal Kentish Bowmen and Royal British Bowmen.

A word may be said as to the uniform of the Royal Company, which has since its commencement undergone many changes. In 1677 the 'garb' was described as consisting of a white vest, green breeches and bonnet; the colour of the coat is not mentioned. About 1713 we find it consisting of a Stuart tartan coat lined with white, white stockings, and a linen bow-case of the same colour, and a blue bonnet with a St. Andrew and a 'coque' of white and green ribbons. This appears to have been the costume for many years, and a very handsome one it was, though one of the newspapers of the day made rather a bad shot in describing it as 'an antique Roman dress.' In 1778 the 'common uniform' was ordered to be a green frock

with white waistcoat and stockings; the shooting uniform being a short coat of 42nd tartan, trimmed with green velvet and frogged with silk. This is the dress in which Dr. Spens is represented in his fine portrait by Raeburn. It was modified in 1813, the white crossbelts being done away with and the bonnet being made gayer. On the occasion of George IV.'s visit the Archers were attired in a dreadful costume, consisting of a green tartan coat and trousers, large white gauntlets, and an Elizabethan ruff round their necks. In 1825 a court dress was assigned them by the king; this seems to have been a very gorgeous affair of scarlet, green and white, but it was altered a few years afterwards to the present handsome dress of green and gold. The shooting dress as it at present exists was first introduced in 1829, though certain modifications have been made on it from time to time.

The prizes shot for by a society do not usually present much attraction, save to the competitors themselves. There are some, however, in the possession of the Royal Company which have a more general interest. The Musselburgh arrow has already been mentioned, but that given by the Corporation of Edinburgh is also worthy of note. It was presented in 1709, and has now about 175 gold medals attached to it, or rather to the stand on which it hangs. The silver bowl was provided by the Company in 1720, and the winner of each year has since then hung a gold medal on it. It was enlarged in 1751, and in 1875 the value of it and the medals attached was estimated at 2,000*l.* As in course of time there was no more room to hang medals on it, a new bowl was made in 1887, and is now shot for. Among other prizes may be mentioned the Hopetoun Vase, a splendid piece of silver plate presented by the captain-general in 1823; the Dalhousie sword, an oriental sabre, the hilt and scabbard of which are lavishly studded with turquoises, and which probably graced the person of some Indian potentate before it reached Archers' Hall; and the papingo medal, originally shot for at a papingo or popinjay (latterly a piece of cardboard) placed on the top of a pole seventy-five feet high.

And, lastly, one of the most esteemed prizes is that presented annually by Her Majesty, of the value of 20*l.*

Not the least interesting possessions of the Company are the following old bows, which are hung on the walls of Archers' Hall.

1. A yew bow backed with ash, dated on the back 1650, which belonged to Mr. Bisset of Lessendrum, in Aberdeenshire.

2. The Flodden bow, presented by Colonel Fergusson of Huntly Burn to Mr. Peter Muir. It had been preserved for centuries in a house near Flodden Field. Its strength is estimated at from 80 to 90 lbs.

3. A bow, presented to the Royal Company by the Marquis of Aylesford, Lord Warden of the Woodmen of Arden, in 1788. It was made about the beginning of the sixteenth century, and was discovered in a house in Scotland in 1776.

4. Bow made by Grant, at one time the property of Mr. Wallace, banker, Edinburgh. Lord Aylesford is said to have offered him fifty guineas for it, but the offer was refused. Dr. Thomas Spens, whose property it afterwards became, presented the bow to the Royal Company in 1840.

5. A very fine and perfect yew bow, also presented by Dr. Spens, whose father, Dr. Nathaniel Spens, recovered it from a family in Fifeshire. Its date is probably about the end of the eighteenth century.

FIG. 125. The Flodden bow (*From a photograph*)

In connexion with the subject of bows, it may be mentioned that the late Peter Muir, when he was first appointed bowmaker to the Royal Company, planted several yew-trees in

the piece of ground adjoining the butts. He was happily spared to see them cut down half a century afterwards ; some of them measured about nine inches in diameter three feet from the ground ; the wood was good, straight and free from fault, and several bows were made out of it, but none of them are reported to have made more than average weapons. After being made they increased in strength, and a bow originally made with a pull of 55 lbs. was found ere long to be difficult to bend with 70 lbs.

It is not within the scope of this chapter to enlarge on the hospitality for which the Royal Company have been ever famous, but it may be said that there are few prettier sights than the dinner-table at Archers' Hall resplendent with the valuable plate which testifies to the shooting prowess of generations. The Company has many honoured traditions, and, composed as it is of the best blood and culture of Scotland, it seems in a fair way to perpetuate them for years to come.

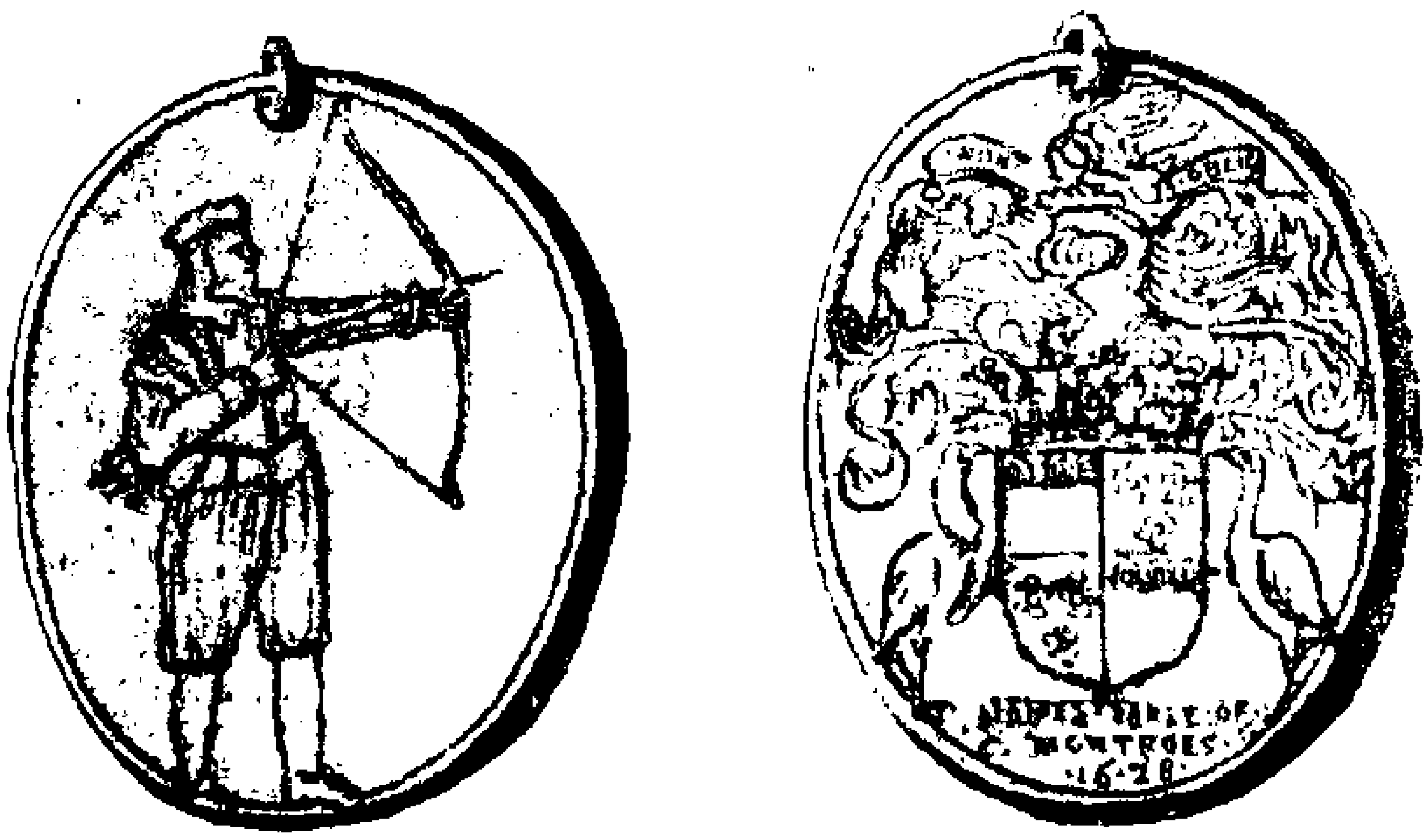


FIG. 126. Montrose Archery Medal

FIG. 127. Sir Ashton Lever
(From the 'European Magazine')

CHAPTER XIV

THE ROYAL TOXOPHILITE SOCIETY

BY COLONEL WALROND

SIR ASHTON LEVER, the founder of the R.T.S., was in many ways a remarkable man. His father, Sir Darcy Lever, knight, of Alkrington, near Manchester, the representative of an old Lancashire family, died when he was twelve years old; Sir Ashton Lever was educated at a private school, and duly went to Oxford, being entered as a gentleman commoner at Corpus, where he soon became famous for his hard riding, as well as for the skill with which he trained his horses.

After he left college he devoted himself to forming a collection of live birds, and accumulated an aviary of about four

thousand, sparing no trouble in procuring them. He is said to have frequently ridden from London to Alkrington with cages full of birds which he held at arm's length while he rode at full gallop, stopping to change hands when he got tired. The zeal with which he collected birds did not, however, prevent him from keeping and hunting a pack of beagles, and being generally a thorough all-round sportsman. He appears to have had a wonderful gift of training animals, and is said to have had five or six hunters so well under command that they would fetch and carry, open and shut doors, and also do other tricks at his orders, carrying him however so well to hounds that he was generally in the first flight. His pointers were likewise so well trained that he frequently had fifteen in one field all pointing or backing at the same time.

About 1760, being at Margate, he heard of a large collection of shells which had arrived at Dunkirk: he at once hired a boat, sailed over to France, and bought the whole cargo, consisting of many hogsheads, which he brought home and proceeded to arrange, giving away and dispersing his aviary. Fossils and stuffed animals next took his fancy, till eventually he formed a large museum, which became so famous that people crowded to Alkrington to see it, and as he entertained all those who did so, he had to make a rule excluding all people who came on foot. It is stated that on one occasion a gentleman who on this account was refused admission, determined not to be done, procured a cow, rode back on it, and was admitted in triumph!

Finally, he was persuaded to bring his collection to London, and exhibited it at Leicester House. The speculation, however, did not pay, and he obtained leave to dispose of it in 1785 by means of a lottery consisting of 36,000 tickets at a guinea each, the collection being eventually dispersed. Sir Ashton Lever was taken ill while sitting as a magistrate at Manchester on January 23, 1788, and died a few hours afterwards.[1]

Attached to the museum in some capacity was a Mr. Waring,

[1] *European Mag.*, 1784 and 1788.

who from too close an application to business and constant writing contracted some sort of disorder in his chest which the doctors could not cure. Probably all he required was healthy exercise; at some former period of his life he had studied the art of bow-making under the elder Kelsal, of Manchester, whose family had been bowyers for several centuries, and he resolved to try archery, which had at that period almost entirely died out. In a short time he found shooting did him so much good that he persevered, and with such good results that he was completely cured. Sir Ashton Lever, who in all probability was himself feeling the want of the outdoor exercise to which he had formerly been accustomed, seeing the good effect archery had had on Mr. Waring, also took it up, and together with his friends and the few remaining Finsbury Archers formed in 1781 the Toxophilite Society, who met and shot in the grounds of Leicester House, which stood in Leicester Square, close to where the Empire Theatre now is.[1]

This was the origin of the revival of archery at the end of the last century, and as from the first the Toxophilite Society took the lead, and was practically the parent of all the archery societies subsequently started, so down to the present day it has continued to be the leading society and main supporter of the York Round, the real backbone of the sport.

At first the members were few, and the 'targets' were shot at Canonbury House, Islington, Highbury Barn, and Vauxhall, probably in consequence of the Leicester House grounds, which were fairly extensive, being large enough for practice but too small for a target-day. In 1784, the Leicester House grounds being no longer available, owing to the approaching disposal of the museum, a step was taken which has hitherto led to an error in accounts of the R.T.S. It has been assumed,[2] from the intimate relations of the society with the Honourable Artillery Company, and from the fact of the targets being held in their ground, that the Toxophilite Society was descended from the Archers' division of the H.A.C. This is not the case,

[1] Roberts' *English Bowman*.

[2] *History of the R.T.S.*

for there was no Archers' division of the H.A.C. at all till the Toxophilite Society itself formed it.

On May 26, 1784, the following letter was read at the Court of Assistants of the Honourable Artillery Company :—

The Toxophilite Society, composed of the following gentlemen, present their compliments to Sir Watkin Lewes and the rest of the Honourable Artillery Company, and request leave to shoot in the Artillery ground: The Right Hon. the Earl of Effingham, Right Hon. Daines Barrington, Right Hon. George Pitt, General Oglethorpe, Sir Ashton Lever, Richard Haworth, Charles Wright, Henry Fielden, Philip Constable, Thomas Lowten, John Firman, Thomas Waring, John Allen, Philip Constable, jun., Rev. John Watts, Henry Blundell, J. K. Sherwin, Charles Sherwin, Thomas Hooker, Charles G. Wolff, James Sharples, James Heseltine, John Beard, Dr. H. Smith.

A Committee was appointed, on July 2, to confer with the Toxophilite Society, the result being that a special general court was called on July 14, at which it was reported that, at a conference held that morning with the Earl of Effingham and seven other gentlemen, these had agreed to subscribe to the rules and orders on being admitted members, and to form an Archers' division with the same privileges as the other divisions. The report was unanimously agreed to, and on July 28 eight members of the Toxophilite Society were admitted, most of the others soon following, the Earl of Effingham being the first captain of the division.[1] The Archers' division continued for twenty years attached to the H.A.C., and from time to time new members were admitted, but they were apparently always also members of the Toxophilite Society. The Archers' division does not appear to have paraded very often with the H.A.C., but they did so when the Company marched round the marks in Finsbury Fields, on one occasion an archer being ordered to shoot over an obstruction in order to assert a right; and the name of one of the marks, 'F.G. 1679,' was altered to that of 'The Earl of Effingham.' On the general day of thanksgiving,

[1] Col. Raikes' *History of the H.A.C.*

April 23, 1789, for the King's recovery, the Archers' division also marched with the Company to St. Paul's. Probably the step of forming this division was taken more for the sake of securing a practice-ground than with the idea of doing any martial work; but the targets were shot on the Artillery ground till 1791.

In 1787 H.R.H. the Prince of Wales accepted the office of patron, and occasionally shot with the society; and in 1788, on the death of Sir Ashton Lever, the Earl of Aylesford was elected president, but only held the office a short time, being succeeded by the Duke of Norfolk. In 1789 the Duke of Leeds became president, and Lady Jane James accepted the office of lady patroness, and gave an honorary badge, which was shot for on a day called the Lady Patroness's Target Day. There seem at this time to have been several medals, &c., which have since disappeared, as there are drawings of various badges said to be connected with the Toxophilite Society in a book belonging to Mr. Madocks, of which there is now no other trace.

The number of members had been gradually increasing till in 1791 it had reached 168, and the society was strong enough to have a ground of its own. Accordingly they rented one from the Duke of Bedford, and, after having it levelled, built a pavilion on it. This ground was situated on the east side of Gower Street, part of Torrington Square being now built upon it; and here, as well as in rooms which they rented of Mr. Waring's son, the bowmaker, they gave various entertainments, the dinners, however, taking place at the Freemasons' and London Taverns. The target days were also held on their own ground, and prizes amounting to a considerable sum were shot for at them, the system of scoring by money value of the hits, which is explained in Chapter XXIII., being in vogue. The society, however, does not seem to have benefited by its acquisition of the new ground, as in 1793 the number of members had fallen to 128. It was then found necessary to have a 'whip' of two guineas, and two years later a sum of 200*l.* was 'borrowed' from twenty of the members; but as it was

never repaid, perhaps that is scarcely the right word to use. In 1797 there were only fifty-nine members, on each of whom an extra call of three guineas was made. Next year the subscription was raised to five guineas, an extra payment of 4*l.* 9*s.* each also being required to meet the expenses, the society, in com-

FIG. 128. Mrs. Crespigny

(*From the 'European Magazine'*)

mon with many others, suffering from the depression which prevailed at that period.

In 1801 Mrs. Crespigny was asked to accept the office of lady patroness, to which she assented in a letter dated May 1. Mrs. Crespigny, who presented at various times many prizes and took great interest in the society, was the wife of Claude Champion Crespigny, Esq., who was subsequently created a

baronet, and was a celebrity in her day. Both she and her husband were rich and entertained largely, and she was well known as an authoress and lover of music.[1] Mrs. Crespigny seems to have taken a great deal of pains to make her parties attractive, and archery fêtes were given by her at Champion Lodge, at which 'games,' which were really matches between individuals, were shot by members of the Toxophilite Society, and also by ladies, fines, according to Hansard,[2] being levied on the losers and devoted to charity. A slight increase of members took place between 1801 and 1805; but in this year the Gower Street ground was required for building purposes, and there are no further records till 1810, though there undoubtedly was shooting during, at any rate, part of this period, as one of the triennial medals won by Mr. Crunden and now in the Crunden Cup was given for 1807-8-9, and another for 1810-11-12.

After the society lost the Gower Street ground it is probable that they shot at Highbury, though the fact is not mentioned till 1811. The records that exist from 1810 to 1821 are very imperfect, and it does not seem as if the affairs of the society were particularly well managed during this period,[3] as in 1815 and 1816 entries are made from which it appears that it was not known who had the medals belonging to the society, or who really were members of it, as in the latter year it was resolved 'That those gentlemen whose subscriptions are in arrear be requested to inform the secretary whether they consider themselves members of the society, and intend to pay their arrears.' In 1817 it was moved that all except the Duke of Bedford and fourteen other gentlemen (who are named) be considered as having virtually or actually resigned; and as there appear in the list of members few names as joining

[1] *European Mag.*, Vol. 46, 1802.

[2] *The Book of Archery.*

[3] At the foot of the notice of the days of meeting for 1793 is printed, 'As there are several target papers wanting, particularly those of the three last targets shot by the Society, if any such shall happen to be in your possession, you are requested to send the same to the Secretary.'

between 1801 and 1821, the society must have become, if the list is accurate, very small.

In 1820 the society again found themselves without a ground, Highbury Barn being shut up, and negotiations were entered into with Mr. Lord, who agreed to allow the targets to be shot on his cricket ground on payment of three guineas a day. The next year it was resolved that the secretary should draw up an address to his Majesty to request that he would continue to favour the society as he had hitherto done as Prince of Wales, and to this a favourable reply was received.

It appears that Mr. Waring in 1816 had an archery ground at Bayswater, on the east of where Westbourne Street now is, and reaching from the Oxford Road to Sussex Gardens, for which he paid 7*l.* an acre. This ground he had offered to the society, but it was declined by them. The inconvenience caused by the loss of their ground in 1820 was so great, however, that a committee was appointed to confer with Mr. Waring, with a view of obtaining a lease of his ground. The negotiations lasted some time, but finally the ground and pavilion were taken for the remainder of Mr. Waring's lease by the society, who subsequently got a renewal of the lease at an increased rent, and they remained there till they obtained the present ground in the Regent's Park. Unfortunately, no official records exist of the society's doings during this time (1822-1836), but mention is found in the 'Sporting Magazine,' and other publications, of grand *fêtes* being given, at which large numbers of fashionable people were present to see the royal and other prizes shot for, King William IV. having been graciously pleased to become their patron, and annually giving a prize.

Endeavours had been made as early as 1828 to secure a ground in the Regent's Park, but it was not till 1833 that the society succeeded in obtaining a lease from the Crown of their present ground. It is situated in the Regent's Park, in the Inner Circle, between the Botanical Gardens and the end of the ornamental water, and is about six acres in extent. A

large sum was spent in getting the ground in order, planting it, making butts, and building the hall. A good idea of the general appearance of the ground soon after it was finished can be formed from the view given below.

The hall is a handsome structure about 40 feet by 24, and 16 feet high; the walls are lined with oak aschams, on each of which is painted the arms and colours of the owners, the upper portion above the aschams being decorated with pictures,

FIG. 130. Royal Toxophilite Society's ground in 1836
(*From the 'Sporting Magazine'*)

trophies of bows, &c., and the heads of various kinds of deer which have been presented at different times. The windows are filled with painted glass bearing the arms of the patrons, founder, presidents, and other members; the ceiling having on it in relief the arms of the society. Besides the hall, there are dressing and committee rooms, accommodation for servants, &c., and there is a spacious verandah both at the front and back. The grounds and garden are tastefully laid out and planted, and

the shooting ground leaves little to be desired; the whole cost about 4,500*l*.

The opening ceremony, from the following account which appeared in the 'Sporting Magazine' for July 1834, must have been a grand function:—

The first meeting of the Toxophilite Club patronised by his Majesty (who gave a silver cup for the occasion) was held on June 2 in the new target ground, Regent's Park. The members assembled in their dining-room at three o'clock, and after discussing the good things provided, proceeded to the shooting ground, and the sports began at five o'clock. The successful competitor was Captain Norton, to whom the Royal Cup was presented. The band of the Royal Horse Guards Blue played the National Anthem, and the company, at the conclusion of the ceremony, giving four cheers in honour of their royal patron, who was present on the occasion. Among the guests and visitors were John Crunden, Esq., father of the Club; the Earl of Aylesford, President; Sir F. Shuckburgh and W. Bagot, Esq., Vice-Presidents; Mr. Finch, Treasurer; Sir Henry Martin, Lord Foley, Lord Garvagh, &c.

It appears to have been the custom for several years to give these *fêtes* annually on the day on which the King's prizes were shot for. The last King's prize was shot for in 1838; subsequently the *fêtes* took place on the President's prize day, and they continued to be given, but on a less extensive scale, till about 1846, when they were superseded by the balls. The first ball took place in 1839, and they remained both popular and fashionable till 1854, when they were discontinued.

In 1838 the society endeavoured to obtain the Queen's name as patroness, but without success. In 1840, however, H.R.H. the Prince Consort consented to accept the office of patron; but no royal prizes have been presented since William IV.'s death. For several years the society, which took the prefix 'Royal' in 1847, went on in the usual way, dining together and shooting matches on the target and other days, and giving annual *fêtes* and balls till, in 1856, the finances—which, owing to the heavy expenses of building and getting settled in the new ground, had never been very flourishing—sank to a very low

point. Various expedients were tried to improve them, and it was even debated whether the lease should not be given up, when Lord Ward (afterwards Earl of Dudley), who had succeeded Lord Aylesford as President in 1850, generously offered to pay the whole of the rent till the end of the existing lease, on condition that the members kept up the grounds. This offer was thankfully accepted, and he accordingly did pay the rent till 1862, when the lease came to an end.

A new lease was not immediately obtained, but finally one was granted to Mr. James Spedding, who, with several other gentlemen, agreed to take the responsibility, and joined together in a sufficient guarantee to pay the rent and to make up any deficiency in the income to meet the expenses.

In 1869 an arrangement was entered into with the Skating Club, by which they were allowed to make the present rink, so that it could be flooded in winter, and the ground was levelled, the banks made and the rink completed by the end of the year. In 1870 H.R.H. the Prince of Wales was pleased to become patron of the society, the office having remained vacant since the death of the Prince Consort; and from then to the present time there is little to record except the progress of the shooting, which is dealt with in another part of this volume, and the centenary meeting which took place in 1881. On this occasion a two days' meeting was held, at which about seventy-five of the members and their friends were present, numerous prizes being shot for. In 1887 the Duke of Portland was appointed President in the place of the late Earl of Dudley.

The shooting season is divided into two parts: one begins on the first Thursday in April, and lasts till the last Thursday in July, and the other commences on the last Thursday in September, and ends on the first Thursday in November. All Thursdays between these dates are either target or extra target days on which the York Round is shot (with the exception of the Norton, Crunden, 80 and 60 yard days, when 144 arrows are shot at 120, 100, 80, and 60 yards respectively). In

October the Autumn Handicap, which lasts two days, takes place, the annual dinner being held on the evening of the first day. The grounds, however, are open for practice all the year round, and can also be retained by members for private parties on giving due notice. In the last few years, several days have annually been devoted to matches with various clubs and counties (in which ladies take part), and also to a match between ladies and gentlemen, these forming a pleasant addition to the season's programme.

The society possesses many valuable and interesting cups, &c., which have been presented to it at various times, and one or more of these are allotted to each target and to some of the extra target days; there are also medals belonging to the various honours, most of which were presented by Mr. T. Dawson. It also has the Catherine of Braganza Shield, of which an account has already been given, and several silver arrows, some having formerly belonged to the Finsbury Archers. The shield and these arrows were brought into the society by Mr. P. Constable, and the other members of the Finsbury Archers who joined the Toxophilite Society in 1781.

The 'Ladies' Days' are well known, and justly so, as being the most popular ladies' archery meeting of the year. The first was held in 1859, and they have taken place annually ever since, each year adding, if possible, to their popularity. They are somewhat in the nature of a handicap, as heavy percentages are deducted from winners of score prizes at the Grand National and other public meetings, as well as from previous prize-winners. At the beginning the attendance was not very large, only twenty-eight shooters having put in an appearance at the first one; but now there are seldom less than three times that number, and as all the best shots are usually present, some fine scores are recorded as having been made on different occasions. Many handsome prizes are always given, and from a spectator's point of view a 'ladies' day' is well worth seeing, not only for the goodness of the shooting, but also for the gay and pretty scene presented by the shooters and spectators,

though for the former the day is a trying one, as there necessarily are so many at a target that the time occupied in shooting the National Round is rather long. There is, unfortunately, no record of the originator of the ladies' days, but whoever hit on the idea, it was a happy thought on his part, and one for which he deserves to be remembered.

The position occupied by the Royal Toxophilite Society in the archery world is an important one ; it certainly is the leading body of archery, and though the existence of the Grand National Archery Society prevents its wielding the authority over the sport that is exercised by the M.C.C. over cricket, its influence over archery is great and far-reaching. Its members are scattered all over England, and it is the only society which can really claim to be the nursery of shooting among men, as no society which does not practise the York Round can be looked upon, from an archery point of view, as more than a social gathering. Shooting at 80 and 60 yards is all very well, but the 100 yards is the real test, and the members of societies that habitually only shoot the short distances cannot (unless they practise the 100 by themselves) ever take a high place at a public meeting, or be said to go in for a scientific amusement.

The importance of the Royal Toxophilite Society can be judged by the fact that, since the institution of the Grand National Championship, it has only been held by three gentlemen who either had not belonged or did not belong to the society, and for the last dozen years at least quite a third of the men shooting at the Grand National, nearly all those at the Crystal Palace, and a great proportion of those attending the other public meetings, have been members of the society.

Pleasant as the ordinary target days and occasions on which ladies' matches take place are, it is perhaps during the rest of the week that the most enjoyable days are to be found. On target and match days there is a certain business appearance in the proceedings, and an anxiety to do one's best which slightly reduces the enjoyment of the day ; but during the rest

of the week friendly rivalry and good-humoured chaff prevail. Many of the town members are engaged during the early part of the day, but between four and seven on every summer afternoon one can depend on finding several of them at the targets shooting some portion of the York Round.

What greater boon can be offered to a man weary with work on a hot London day than the opportunity of getting healthy exercise in shooting a York Round, combined with all the advantages of a club? To be in the grounds even without shooting on a summer day is a pleasure that needs only to be known to be appreciated. Situated as the grounds are, it is difficult to realise, when once inside them, that one is not in the country, instead of being in the middle of London. It is this that gives the 'Tox' a charm peculiar to itself, and it is not surprising that the members drop in to shoot a round and have a chat much in the same way that they would go to their club in the afternoon to play a rubber. Probably many a busy brain has received renewed vigour, and many an illness has been avoided, by the hours spent in the open air while pursuing this healthy and pleasant pastime, which hours, had it not been for the 'Tox,' would have been passed indoors.

There can be no question of the great advantage conferred on archery and archers individually by these daily meetings. The practising together causes friendly rivalry and mutual improvement, and cements the good-fellowship which exists among the members. The intermittent advent of country members gives the necessary change of faces and ideas; archery matters and the prospects of the championship are discussed (for occasional 'shop' is unavoidable), while the afternoon teas in the grounds after the hundred yards still retain the pleasant social character which they possessed, according to Sir W. F. Pollock,[1] some thirty-five years ago.

Naturally, from the excellence of the ground, and from constantly shooting on it, some of the members habitually make much larger scores at the 'Tox' than they reach when

[1] *Personal Remembrances.* Sir W. F. Pollock, Bart.

the anxiety of a public meeting has to be faced, and in this respect the goodness of the ground is perhaps a drawback. It would be invidious to mention names, but many scores of over 500 are made in practice in the course of the season, and some of them occur on target days, the best scores last year (1893) having been :—

Date	Name	100 yards		80 yards		60 yards		Total	
		Hits	Score	Hits	Score	Hits	Score	Hits	Score
June 1	C. J. Longman	39	161	30	142	20	98	89	401
June 29	F. L. Govett	37	159	42	218	23	117	102	494
,,	H. Walrond	36	134	40	174	20	120	96	428
July 20	F. A. Govett	45	181	39	207	24	126	108	514
,,	C. E. Nesham	39	151	43	235	23	123	105	509
,,	E. W. Hussey	37	133	44	206	22	112	103	451
,,	F. L. Govett	40	172	38	164	23	115	101	451
July 27	G. E. S. Fryer	41	175	43	207	23	119	107	501
Oct. 12	T. T. S. Metcalfe	37	143	38	180	23	137	98	460
Oct. 13	C. F. Cholmondeley	41	167	37	179	19	107	97	453
,,	G. Bird	36	150	39	179	23	125	98	454
,,	C. H. Everett	42	142	32	162	21	99	95	403

There can be no doubt that the social intercourse, and certainty of being able to find friends with whom to shoot, are a powerful inducement to practise, and that the effect in promoting archery of a society like the 'Tox' is infinitely greater than that of any society which only meets occasionally, and whose members have to practise by themselves. That will be an evil day for archery on which any disaster befalls the Royal Toxophilite Society, and may it be far distant. *Floreat!*

Scores of 500 and upwards made on Target and Extra-Target Days of the Royal Toxophilite Society since the Institution of the York Round

Date	Name	100 yards		80 yards		60 yards		Total	
		Hits	Score	Hits	Score	Hits	Score	Hits	Score
July 17, 1856	H. C. Mules	44	222	38	176	24	148	106	546
Oct. 15, 1856	H. A. Ford	50	192	43	227	24	132	117	551
July 15, 1858	H. C. Mules	45	183	39	199	22	126	106	508
Aug. 24, 1858	,, ,,	52	240	42	232	23	131	115	603[1]

[1] It is not certain whether this was a target day or not.

Date	Name	100 yards		80 yards		60 yards		Total	
		Hits	Score	Hits	Score	Hits	Score	Hits	Score
Nov. 3, 1858	H. A. Ford	47	227	46	258	24	138	117	623
June 7, 1860	W. J. Richardson	44	190	39	193	21	133	104	516
May 30, 1867	W. Spottiswoode	50	194	38	194	22	124	110	512
July 6, 1867	,, ,,	50	244	41	201	23	129	114	574[1]
Oct. 20, 1871	C. H. Fisher	47	227	42	194	23	113	112	534
Aug. 2, 1872	G. E. S. Fryer	59	289	44	218	24	132	127	639
May 27, 1873	,, ,,	50	200	42	242	23	129	115	571
June 3, 1873	,, ,,	55	235	47	249	24	138	126	622
July 1, 1873	,, ,,	48	184	45	243	24	132	117	559
June 4, 1874	,, ,,	53	217	39	175	24	116	116	508
Oct. 8, 1874	T. Boulton	42	186	41	201	24	114	107	501
,, 22, 1874	C. H. Everett	45	187	40	190	23	123	108	500
June 17, 1875	G. E. S. Fryer	45	197	41	173	24	134	110	504
Sept. 27, 1876	,, ,,	50	220	35	133	41	147	126	500
Aug. 3, 1877	H. H. Palairet	43	199	42	204	20	104	105	507
Sept. 30, 1880	C. H. Everett	52	192	41	200	23	109	116	510
Oct. 14, 1880	,, ,,	50	224	38	166	22	116	110	506
,, 12, 1881	H. H. Palairet	36	136	44	226	24	146	104	508
,, 13, 1881	,, ,,	46	228	37	191	23	135	106	554
,, 19, 1882	C. E. Nesham	48	200	40	218	21	101	109	519
,, 26, 1882	,, ,,	48	194	44	220	21	91	113	505
,, 11, 1883	,, ,,	57	269	40	180	23	121	120	570
Nov. 1, 1883	C. J. Longman	49	199	41	189	23	149	113	537
May 29, 1884	F. A. Govett	52	198	41	209	24	114	117	521
Oct. 2, 1884	C. E. Nesham	47	229	38	182	23	117	108	528
,, 16, 1884	,, ,,	46	228	47	253	20	110	113	591
,, 23, 1884	,, ,,	49	179	43	213	24	150	116	542
,, 30, 1884	,, ,,	49	211	38	180	20	112	107	503
Nov. 6, 1884	,, ,,	45	195	42	206	22	126	109	527
July 2, 1885	C. H. Fisher	53	239	42	192	24	126	119	557
Oct. 15, 1885	C. E. Nesham	43	197	37	173	24	136	104	506
,, 29, 1885	,, ,,	50	224	44	220	24	148	118	592
Nov. 5, 1885	,, ,,	39	169	45	239	24	130	108	538
May 13, 1886	,, ,,	44	200	35	161	23	141	102	502
,, 5, 1887	,, ,,	55	281	41	187	22	126	118	594
June 16, 1887	,, ,,	45	195	37	169	24	140	106	504
,, 30, 1887	,, ,,	54	242	41	177	22	124	117	543
Oct. 13, 1887	T. T. S. Metcalfe	40	164	45	195	24	154	109	513
,, 20, 1887	C. E. Nesham	51	211	42	178	23	111	116	500
May 10, 1888	,, ,,	47	203	44	234	22	114	113	551
July 19, 1888	,, ,,	56	210	42	180	21	117	119	507
Oct. 11, 1888	,, ,,	59	239	43	193	24	120	126	552
May 9, 1889	C. J. Longman	38	190	40	176	24	134	102	500
July 4, 1889	F. A. Govett	41	213	39	195	23	119	103	527
Sept. 26, 1889	F. L. Govett	47	221	42	208	24	134	113	563
Oct. 10, 1889	,, ,,	46	186	44	226	22	108	112	520
,, 11, 1889	,, ,,	48	184	44	222	21	113	113	519
,, 17, 1889	,, ,,	53	171	44	204	23	145	120	520
,, 24, 1889	,, ,,	46	182	45	239	24	132	115	553
Nov. 7, 1889	,, ,,	48	192	41	207	23	135	112	534
May 8, 1890	,, ,,	47	181	42	196	21	129	110	506
Sept. 25, 1890	,, ,,	43	191	39	189	22	124	104	504
Oct. 9, 1890	C. E. Nesham	43	195	38	196	23	109	104	500
,, 23, 1890	L. R. Erskine	46	226	41	193	20	94	107	513
Nov. 6, 1890	N. Rattray	43	199	38	200	23	109	104	508
May 14, 1891	F. L. Govett	43	165	43	205	24	138	110	508
,, 21, 1891	,, ,,	49	207	39	175	24	154	112	536
July 20, 1893	F. A. Govett	45	181	39	207	24	126	108	514
,, 1893	C. E. Nesham	39	151	43	235	23	123	105	509
,, 27, 1893	G. E. S. Fryer	41	175	43	207	23	119	107	501
June 7, 1894	C. F. Cholmondeley	43	201	43	213	22	118	108	532
,, 14, 1894	,, ,,	42	154	41	217	23	131	106	502

[1] It is not certain whether this was a target day or not.

CHAPTER XV

THE WOODMEN OF ARDEN

By the Rev. W. K. R. Bedford

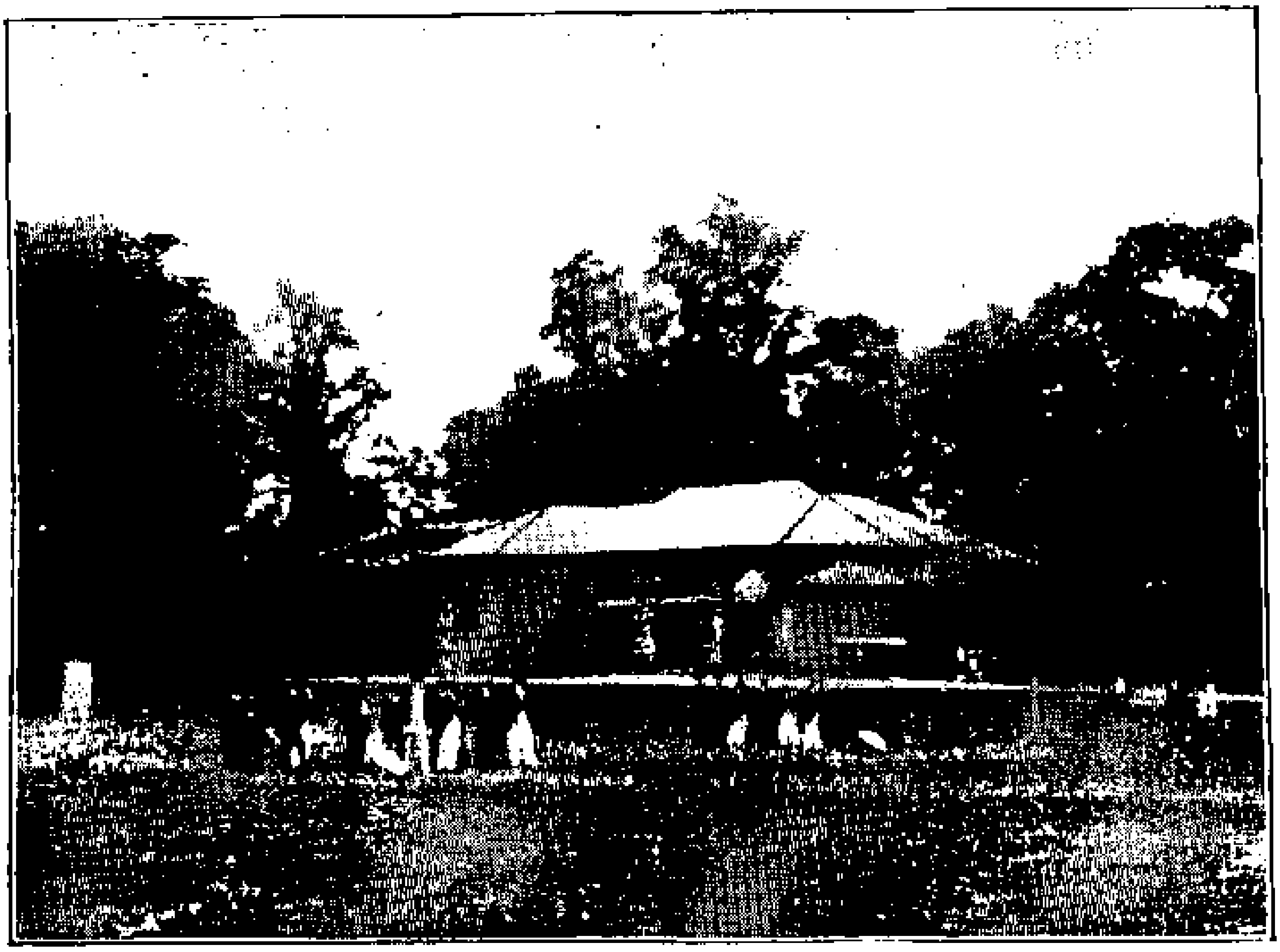


Fig. 133. The Forest Hall

The Woodmen of Arden of all societies has adhered most closely to the traditions of the archery of the Restoration. Up to the present moment the regulations of Finsbury Fields are perpetuated on the sward of the Forest of Arden. The Woodmen share with the Royal Scottish Archers the exclusive distinction of shooting for their principal prizes at the statutory distances prescribed by the obsolete legislation of a period

when the exigencies of warlike archery made it expedient that practice at lengths exceeding nine score yards should be compulsory; and, with the exception of the John o' Gaunt Society, they are the only county archery club which has celebrated a centenary; never, in fact, during the 109 years of their existence having failed to hold a meeting or compete for the annual prizes. Several of the present members of the society remember shooting at the turf butts erected by the care of Secretary Digby in 1786 upon the Packington Outwoods—the ground leased to the Woodmen by Heneage Finch, fourth Earl of Aylesford, their founder and first warden—wedge-shaped erections with 'crown-clods,' the semblance of one of which still adorns the card of the society, though the actual structures themselves, having fallen into disrepair, were taken down in 1852, and replaced by the moveable contrivances now in use as supports to the targets.

No doubt a higher antiquity has been claimed for the society, as has been the case with other ancient institutions, than in all probability it can legitimately boast. The Warwickshire gentlemen who met at the Bull's Head Inn, Meriden, in November 1785, professed to revive certain ancient meetings of Woodmen of the Forest of Arden; but that they could trace any direct descent from the verdurers of the Forest, of whose mythical prowess—'clapping into the clout at six hundred yards'—Dr. Dasent speaks in his 'Annals of an Eventful Life,' or even from the county heroes who figure in the animated description of the shooting match with which Mr. Gresley opens his historical romance of the Forest of Arden, is more than dubious. It appears from Mr. Digby's diary that 'Paradise,' the recreation-ground, as nowadays it would be called, of the village of Meriden, had no butts when the society was formed; and we may with greater probability conjecture that the revival which Sir Ashton Lever and the other founders of the Royal Toxophilite Society had set going had infected the gentlemen of Warwickshire than that any lingering tradition of local archery inspired them with an ambition to continue it.

Be this as it may, Heneage Finch, fourth Earl of Aylesford, a man of many accomplishments, and of mental as well as physical vigour, diligently promoted the well-being of the archery club of which he was the founder, and on its inception was elected first warden. In conjunction with an Italian artist, Bonomi, he arranged the well-proportioned room which forms the older portion of the Forest Hall, an oblong octagon, in a recess at one end of which is a fine bust by Banks, representing the Lord Warden in the act of drawing his bow. Round the walls are arranged fifty aschams for the bows, &c., of as many shooting members, the door of each being distinguished by the owner's crest or arrow-mark. These marks are emblazoned on the parchment roll of the society, which, with its 460 names from 1785 to 1885, is a most interesting relic of past archery. On the upper part of the walls of the hall are tablets recording the names of the winners of prizes from 1785 to 1885, and certain trophies of Oriental and African bows, arrows, &c., presented by former members, as well as an interesting old curved horn, covered with leather, supposed to be an old English bugle horn deprived of its mounts. The winners since 1885 have their names recorded on a tablet in the adjacent and larger hall into which the folding-doors at the lower end of the old apartment open, this having been erected in 1845 as a dining-room and ball-room for use on the ladies' days. Prior to this the ladies had gone to dinner to the inn in the village, where tradition asserts that they were allowed a pint of port wine apiece, as well as two gentlemen to carve for them!

At the end of the new hall is a bust by Nollekens of Mr. Wriothesly Digby, the first secretary of the society. On this gentleman's resignation in 1826 the Rev. J. Coker Adams was elected: a most felicitous choice, as he combined excellent bowmanry with good business capacity and happy social gifts. He died in 1851; the late Earl of Dartmouth then filled his place, and ten years later he was succeeded by Colonel Frederick Granville, who in 1871 gave way to the Rev. E. J. Howman,

to whom, on his leaving the county five years afterwards, the Rev. E. A. Waller, the present holder of the post, succeeded.

The rules and orders of the newly-organised society were signed on August 30, 1786, by forty-four Woodmen present at the Wardmote, for thus it was resolved their regular meetings should be styled; the order of precedence at the target being the warden, the master forester (first gold at the annual target), the secretary, and the senior verdurer (second gold), for which distinctions gold and silver medals were presented in 1789 by William Palmer. No member ranks as verdurer of the Forest until he has hit the gold or made a clout at one of the regular meetings of the society.

In 1788 the number of members was limited to seventy-five, increased in 1815 to eighty; and there can be little doubt of the favourable effect of this resolution upon the prosperity of the society. It caused it to be regarded in some measure as a county club to which it was an honour and a duty for Warwickshire gentlemen to belong, whether archers or not; so that almost every family of distinction in the county has had representatives upon the roll, in many cases to the third or fourth generation. The present senior Woodman is Lord Norton, whose grandfather's name occurs fifteenth upon the list in 1786.

The most distinguished name upon the list of former members is that of the second Sir Robert Peel, the Prime Minister, who in 1835 was elected without a vacancy, the limitation rule being relaxed in his favour. He thus became the eighty-first member, and at his death his place was not filled up. A characteristic anecdote is current that Sir Robert visited the Forest Hall during his premiership, and, his health having been drunk by the Woodmen present, the secretary fined them all, himself included, for joining in a toast to a Woodman 'who held no office, and had obtained no honour,' while, sad to say, Sir Robert Peel himself was also fined for acknowledging an irregular toast.

In 1787 the warden presented a very massive and hand-

some silver bugle, which it was determined should be shot for at a distance not shorter than nine score yards, nor greater than twelve score, to be drawn by lot. In 1788 the Countess of Aylesford presented a silver arrow, which it was resolved to shoot for always at nine score. In 1818 Mr. Digby presented a gold medal, *Optime merenti*, for the greatest number of hits at 100 yards during the August meeting, and a silver medal, *Bene merenti*, for the second best. In 1856 the Rev. Egerton Bagot presented seven silver medals for best golds at June and July meetings; and in 1864 Heneage Finch, sixth Earl of Aylesford, presented a gold medal for the greatest number of golds in the August week, a hit in the clout being reckoned as a gold. In 1887 the Royal Scottish Archers presented a silver bowl as a challenge-prize for clout-shooting, and it is competed for by points at nine and ten score, a medal struck by the society being worn by the holder.

In lieu of an historical chronicle, which, in the case of an institution depending so largely upon its social character, and from its constitution kept aloof from the waves of change which have affected so many of the other archery gatherings, must of necessity be somewhat meagre of incident, perhaps it will be better at once to describe the mode in which these various competitions are carried out, and the results obtained by the successful contestants. With reference to the 100 yards prizes, therefore, it is a necessary preliminary to observe that the target and the order of shooting differ from the ordinary use. The target, affixed to a canvas-covered butt at a height of eighteen inches only from the ground, is three and three-quarter inches less in diameter than the ordinary one, which, with the exception of an inner white circle instead of blue, it otherwise resembles, and the mode of scoring is against the shooter, i.e. if the arrow breaks the line which divides two circles, the lower one has to be reckoned. The shooters, who only discharge two arrows at an end, do so in pairs, alternately, the leader having shot his first arrow filing off to the left, and his partner (in Forest parlance his 'butty') taking his place.

Should there be at any target an uneven number, then, of the trio who come last, A advances and shoots, then B, then A again, and C, B, C in turn. The marker, stationed near the target, signals each arrow with a napkin on a short staff. This he waves backwards for over arrows, droops forward for short ones, extends his arms for wide shots, and points with derision at a 'butt or spoon' (sarcasm intensified when the unlucky arrow is nine-tenths in the outer white, so that a prolonged scrutiny is required before the fiat is given). For the outer white four distinct flaps of the flag are the signal, three for the black, two for the inner white; a hit in the scarlet elicits a brisk shake of the napkin, knee high; for the gold, a dance of triumph and the removal of the gold-laced hat, which, with the green coat and white waistcoat, breeches, and stockings, perpetuates the old uniform of the society in the costume of the markers. On the conclusion of the 'end,' two clerks come forward, and while one registers each hit by his acquaintance with the mark indicating the ownership of the arrow, the other places upon the nock a small ring of coloured bone, which as the successful archer draws his shaft he pockets as a tally against his score, the shooting members being paid for their hits by a tariff beginning with sixpence for the outer white, and rising to half a crown for the gold. At one time the members of affiliated societies shared in the rewards, and paid their own expenses for dinner, &c.; but in 1850 a resolution was proposed which from that time put them on the footing of other guests. In the early years of the society visits from members of the Royal Toxophilites, the Kentish Bowmen, and Broughton Archers were not infrequent; and, later on, Mr. Horace Ford and Major Hawkins Fisher have both been guests of the Woodmen, the contest between the latter and Mr. Nesham for the Jubilee prize in 1885 being a very remarkable one: a tie, both in hits and score, won by Mr. Nesham with four hits to three. The competition for the captaincy of numbers, which is decided by hits only, is not limited to a certain number of arrows, but by the time available; consequently,

the winner's score varies from year to year with the weather and other disturbing causes, but the average number of arrows shot in the thirty years from 1855 to 1884 has been 272, while the winner's hits for the same period have averaged ninety-four. This, with due allowance for the smaller target, is a trifle better than the 100 yards average of the second five at the National Meeting during the same period. In 1861 Mr. F. Townsend in 268 arrows made 130 hits, and the next year 114 hits in 232, besides winning at the clouts both arrow and bugle, the arrow by four ends out of nine, two of which were hits in the clout, the latter by five ends out of nine, one being a clout. The late Mr. Coker Beck, who in 1891 completed a half-century of prize-taking at the hundred yards, claimed as his best score sixty-nine hits with a score of 313 out of 152 arrows; while Mr. Townsend in 150 arrows made seventy-nine hits with a score of 319 in National reckoning. Since the institution of the captain's medal in 1818 it has been held by twenty Woodmen. Mr. Coker Adams obtained it seventeen times; Mr. Coker Beck sixteen; Messrs. F. Townsend, H. Skipwith, H. Howman, and C. H. Inge five times each; Mr. Charles Finch four times; the fifth Earl of Aylesford, Mr. Robert Garnett, Colonel Granville, and Mr. E. J. Howman each held it twice; and nine other Woodmen once—viz. Messrs. C. Palmer, R. Gresley, W. Lillingston, W. H. Burroughs, W. Staunton, Bernard Granville, W. K. R. Bedford, E. A. Waller, and W. S. Miller. The warden's medal for most golds has not produced anything very brilliant, Mr. Beck's nine golds and a clout in 1869 being the best.

The contests for the arrow and bugle only differ in respect of distance; the former being always 180 yards, the latter occasionally 240. The order of shooting is as at the target, the archers pairing off and delivering their arrows alternately, and the marker, as at the 100 yards, standing close to the left of the clout, a black-centred white target of two feet six inches in diameter, placed at an angle of about sixty degrees. Watching the arrow as it leaves the bow, he will stand his ground with

marvellous firmness, and he then exercises his judgment in the mark which he accords; having first signalled short, over, or wide, each flap of his flag means a bow's length from the clout, four bows being the extreme distance marked. For half a bow he lays his napkin over his left arm, a 'foot' is indicated by striking his foot, 'thumbs' by the hands united over the head, and a clout sends him on his back as if shot. He indicates the first or nearest arrow by a flourish above the head, and the second by one knee high.

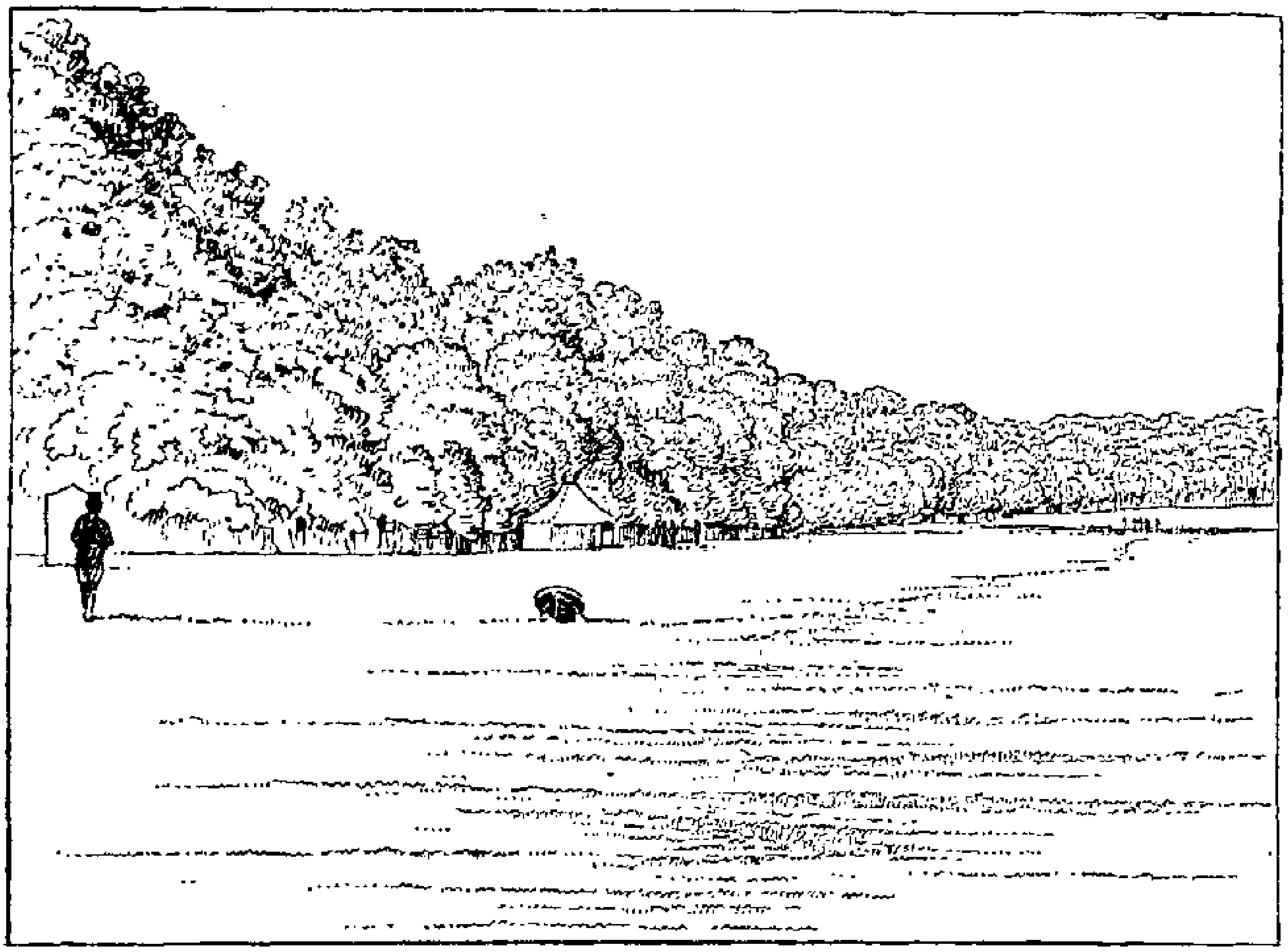


FIG. 134. '12 score'

Marking at the clouts is a work of some danger, and the difficulty of obtaining men competent to undertake it forms one of the drawbacks to clout-shooting, as, without a marker, much of the value of practice is lost. In 1841 a marker was hit on the Meriden ground, and again in 1889 a similar casualty occurred; since which time shelters, like those in use in Edinburgh, have been provided for the markers. In a book which gives an excellent picture of the social amenities of Meriden—

Colonel Ewart's 'Soldier's Life'—he speaks of a gentleman, who had pulled up in his gig in the high road to watch the shooting, receiving a stray arrow in his arm. A little inquiry, however, brought the true state of the case to light. A right of road to a farm crosses the lower portion of the ground, and more than fifty years ago the tenant sometimes drew up his gig immediately behind the clout, rather to the annoyance of the shooters, one of whom let fly at him, and, though full three hundred yards away, actually grazed his arm. But a marker must have perfect sight and a clear horizon, as well as experience, to mark to a shooter with a low trajectory.[1]

Mr. Ford's appearance as a competitor at the clouts in 1851 excited great interest.

He shot (Mr. Beck, a few weeks before his death, wrote) with us on the Wednesday, as I thought, in very fine form, but was wanting in accuracy as to the distance. After his day's practice with you on Thursday he shot ten and a half score yards on Friday with such improvement in accuracy of distance that, though I was shooting well and won, he kept so close to me that I am not sure he did not shoot quite as well, and I have no doubt of his better form.

It is an error to suppose that very strong bows are necessary for distances up to 200 yards, although after that there is no doubt that, especially in windy weather, power is essential. The sharp clean loose is the great factor in distance, and, in the words of an old archer and present prize-holder at the clouts, it is worth 'a score or more yards.' Nothing is more common than to see a tiro, palpably overbowed, struggling with his string, the result being a weak and abortive effort; while a man of inferior physique, shooting with a good casting bow within his powers, easily overshoots him. If you can command a bow of 54 or 56 lbs. weight you are no doubt more independent of weather, but men have done well at

[1] Mr. Horace Ford, practising with the writer at Sutton Coldfield in 1851, put Mr. Reynolds Hole (now Dean of Rochester), who was marking, into considerable jeopardy by a low arrow, of which Mr. Hole lost sight.

nine and ten score with bows of 45 lbs. pull. When you arrive, however, at distances above 200 yards, the truth of the saying, *non cuivis contingit*, comes very powerfully home. A *pretty* shot, even up to ten score, is palpably in the background, when but ten yards more are added, and it is here that the value comes in of some of those fine old bows still preserved in the Forest, such as Sir Eardley Wilmot's 80 lb. bow by Anderson, which the fifth Lord Aylesford bought for twenty guineas, or the bow Poictiers, presented by Mr. Roberts (the 'English Bowman') in 1818 to be shot for at twelve score, which was won by the Hon. Edward Finch, after a tie with his brother Daniel. 'The winner afterwards shot over the twelve score at the first shot with the prize bow,' according to the conditions. The annals of the society show that that command of the bow which seems to be hereditary in the Aylesford family has told conspicuously at the longer distances. The competition for the 'bugle' at twelve score has taken place only twelve times since the foundation of the society, and the only Woodmen who have won it twice at that distance have been the founder, the fourth Earl of Aylesford, and his son, Mr. Daniel Finch; the other winners have been Messrs. G. Beresford and T. Fetherston, Sir Francis Shuckburgh, Messrs. C. Coker Beck, F. Townsend, H. Palmer, H. Howman, and W. C. R. Bedford.

Many men who shoot with some success at the nine and ten score yards are in the habit of using the ordinary target arrows; but there is no doubt that to shoot any longer distance an arrow of lighter make, and offering less resistance to the wind, is required; it should be made of a stiff yet elastic, well-seasoned deal, such as Thompson of Meriden (the worthy representative of four generations of careful and capable fletchers) can produce out of old target arrows. The dark heavy-wood arrows used some years ago by Scottish Archers and their friends are disposed to gad, and always require lifting. Some archers have tried arrows of twenty-nine inches, but the result, involving drawing out of line and beyond true aim, is not satisfactory;

at least, I believe this is the opinion of the best shots. There is a general consensus also as to the impossibility of producing an arrow of any stability lighter than 3*s.* 3*d.* The lower the feather is cut the better.

For the aim (to quote the words of a good scientific archer) glue a strip of white paper, $\frac{3}{16}$ of an inch wide and an inch in length, horizontally across the lower limb of the bow, and extending from the centre of the belly to the left-hand edge of the back of the bow; place the strip at first about two inches from the handle of the bow. On a still day shoot a few arrows at nine score yards, covering the clout with the strip as seen by the right eye. If your arrows fall short, place the slip lower, i.e. further away from the handle; if they fall beyond the clout, place the slip a little higher, and then by experiment ascertain the exact spot where the strip should be placed as your aim on a still day for nine score. In future shooting raise the bow, so that the strip should be above the clout if the wind is against you: lower the bow so that the strip should be below the clout if the wind is with you; and by practice you will soon learn how much or how little you should raise or depress your bow to make due allowance for up and down wind.

This is a particular analysis of the mode of aiming which, with some modification, is adopted by every archer desirous of competing with success at the long ranges. One will tell you that he sees the clout under the arm when aiming; another that he fixes on some object in the distance as his point of aim; but it all resolves itself into a question of *parabola*, the aim being taken relatively to the distance to be achieved. The weaker the shot the higher the flight of the arrow; the greater, therefore, the influence of the wind. Those who insist upon the excessive disturbance of the arrow by the elements as an objection to long-distance shooting may be reminded that one of the finest struggles ever witnessed took place on the occasion of the centenary meeting of the Woodmen of Arden, between the Royal Scottish Archers and the home representatives, under the most unfavourable conditions of weather. At the last end, with bad light—in addition to rain and wind—six arrows out of the forty-eight shot were within half-bow distance.

The weak point of the competition for Arrow and Bugle at Meriden undoubtedly is this—that a steady shot, shooting good arrows at every end, just cut out on each occasion by a fresh competitor, may lose the prize to a rival who has only shot two good

FIG. 135. Mr. Inge shooting at the clout

arrows during the whole match, both having scored. Mr. Octavius Luard—so well known in connection with the National Archery Society—himself a Woodman of Arden, had a strong opinion that this defect should be remedied, and used to keep a private

register of the performances of some of his friends, in order to test the general accuracy of their shooting. When it became necessary in 1888 to establish fresh conditions under which to compete for the bowl presented by the Royal Company, a similar idea was put into form by the present secretary of the Woodmen. Circles are drawn round the clout at distances of eighteen inches, three, six, nine, and twelve feet, an arrow within the outmost circle scoring one point, and advancing up to six for a hit in the clout. Half of the match takes place at nine score, the other half at ten, and the tie, should one occur, is shot off at nine and a half. This has produced a very close contest on several occasions, and proved highly popular. In 1888 when thirty-six arrows were shot, Mr. W. K. R. Bedford won with 35 points, Lord Aylesford and Mr. E. J. Howman *proxime accesserunt* with 33. In 1889 in forty arrows a tie was shot at 36 points between Messrs. A. L. Willett and C. Inge, won by the former. In 1890 Mr. A. E. R. Bedford won by 43 points, the secretary and Mr. Inge each scoring 36. In 1891 Mr. Inge gained 41 points to Mr. Miller's 40; and in 1892 Mr. Inge won again with 50 points, Mr. A. E. R. Bedford coming next with 38. In each of these years forty arrows have been shot. But in 1893, in forty-four arrows, Mr. Inge won with a score of 71. It is, however, complained that an arrow which just skimmed the upper edge of the clout will probably fall into the second circle, and score four, or even into the third, and score only three, while a short arrow will score five, which in ordinary clout-shooting would have been beaten in the measure from the centre of the clout to the nearest portion of the arrow.

It is, however, the fact that the good target-shot is generally successful at the clouts. The late Mr. Coker Beck's average in practice has been but little falsified during his forty years' competition for the Arrow and the Bugle, having won the latter seventeen times, the former seven. Mr. Townsend, between 1857 and 1866, was captain at the 100 yards five times, and lieutenant twice, and during the same period

won the long-distance prizes each three times. The same coincidence may be traced in the performances of Messrs. H. Howman, Inge, Skipwith, and Miller.

How close the contest for the long-distance prize generally proves is evidenced by the number of times on which a tie has occurred ; but, even without this crowning effect, the closeness of the running is well worth noting. For example, in 1892 Mr. A. E. R. Bedford led off for the Arrow by beating Mr. H. Wise by a bare inch. He won the third end after a measure with the same gentleman, won the fifth end, and at the ninth end Mr. Wise hit the clout. In the same year the Bugle was shot for at eleven score ; and at the sixth end, Messrs. J. Adams, R. C. A. Beck, and A. E. R. Bedford had scored two ends each ; at the seventh end Mr. Adams marked both his arrows ; Mr. Bedford won the eighth, and was second to Mr. Inge in the ninth. Colonel George Newdigate is the only Woodman credited with two consecutive hits. Now and then there is a surprise from an outsider, like the one on August 4, 1886, when Mr. J. F. Alston won the Arrow by gaining three consecutive ends out of six, his points being five. His last arrow hit the clout.[1]

In 1878 began a series of matches, which among other agreeable results have much promoted practice at the long distance. Through the good offices of Sir John Gillespie, secretary to the Royal Company of Scottish Archers, eight of that illustrious body visited Meriden in that year, and defeated an equal number of Woodmen by eighteen points to four. In 1881 seven Woodmen lost a return match in Edinburgh by six ends to seven, and seven arrows to eighteen. In 1885, at the centenary meeting at Meriden, twelve Scotsmen were again successful by nine arrows to six. In 1887 at Dalkeith eleven

[1] This gentleman, however, was at that period a very dangerous customer, as the following extract from the society's minute book shows :—'July 15, 1886. At this wardmote A. L. Willett hit a scarlet, and the arrow hung down across the target.' J. F. Alston announced that he was about to split it, which he proceeded to do with the next arrow he shot, which also hit the scarlet.'

Woodmen turned the tide, scoring twenty-three to six ; and it was then agreed to establish a triennial competition alternately in England and Scotland for a challenge cup. At the first match, at Meriden in 1890, this prize fell to the Royal Company, ten of whom scored fourteen to five. And they renewed their success at Dalkeith in 1893, making 13 points to 8, though the Woodmen won five ends out of nine. In every point of view this renewal of a friendly intercourse, dating from 1787, has been a source of the greatest gratification and advantage to the Warwickshire society.

It must not be forgotten that, although the society boasts no lady members, it has been customary since 1829 to invite a number of ladies to shoot on Wednesday and Friday afternoons of the Grand Target week, and to offer prizes for the greatest number of hits and best gold each day. The shooting takes place at 60 yards, under the same conditions as the members', and it has been the desire of the society to encourage local aspirants—'the lasses of the Forest'—as far as possible, without lowering the standard of the competition. In addition, therefore, to the ordinary prizes—for which winners of score prizes for three years past, either on the Meriden ground or at the five principal public meetings, are not allowed to compete—a badge, elegantly designed from the society's device of an arrow between the letters 'A R' and 'D E N,' is awarded to the best score, provided that it exceeds a proportionate minimum, and this trophy is untrammelled by any handicap.

Besides these prizes, miniatures in gold of the Arrow and Bugle are presented to ladies (single or brides) who may have drawn in a lottery the names of the winners of either. The presentation of these is the occasion of great ceremony, and one of the principal attractions to visitors to the Forest Hall. So also is the solemn toast of the health of the winner, drunk by the marker in a glass of wine no longer undiluted, but flavoured with a guinea, which the recipient has to catch in his teeth, and retain between them until he has left the hall. To give a full detail of these antiquated customs and quaint

formalities would take up too much space, important as they are to the social side of a cherished county institution.

One more entry in the society's annals must not be forgotten. In 1848 it was resolved that a pair of targets and bosses be presented to the new society established amongst the villagers of Ansty and Shilton, under the title of 'The Woodmen of Ansty and Shilton in the Forest of Arden.' Of this village society for the improvement of archery the Rev. C. C. Adams wrote in 1885 :—

> It may be regretted that the experiment should be unique, for it has met with much favour in the two villages in which it was first established, and has continued to prosper. Its officers are a warden, secretary, master forester, and senior verdurer (the two latter being the captain and lieutenant of numbers), and each year, as summer returns, its members are to be found shooting at 100 or 60 yards two days in the week.

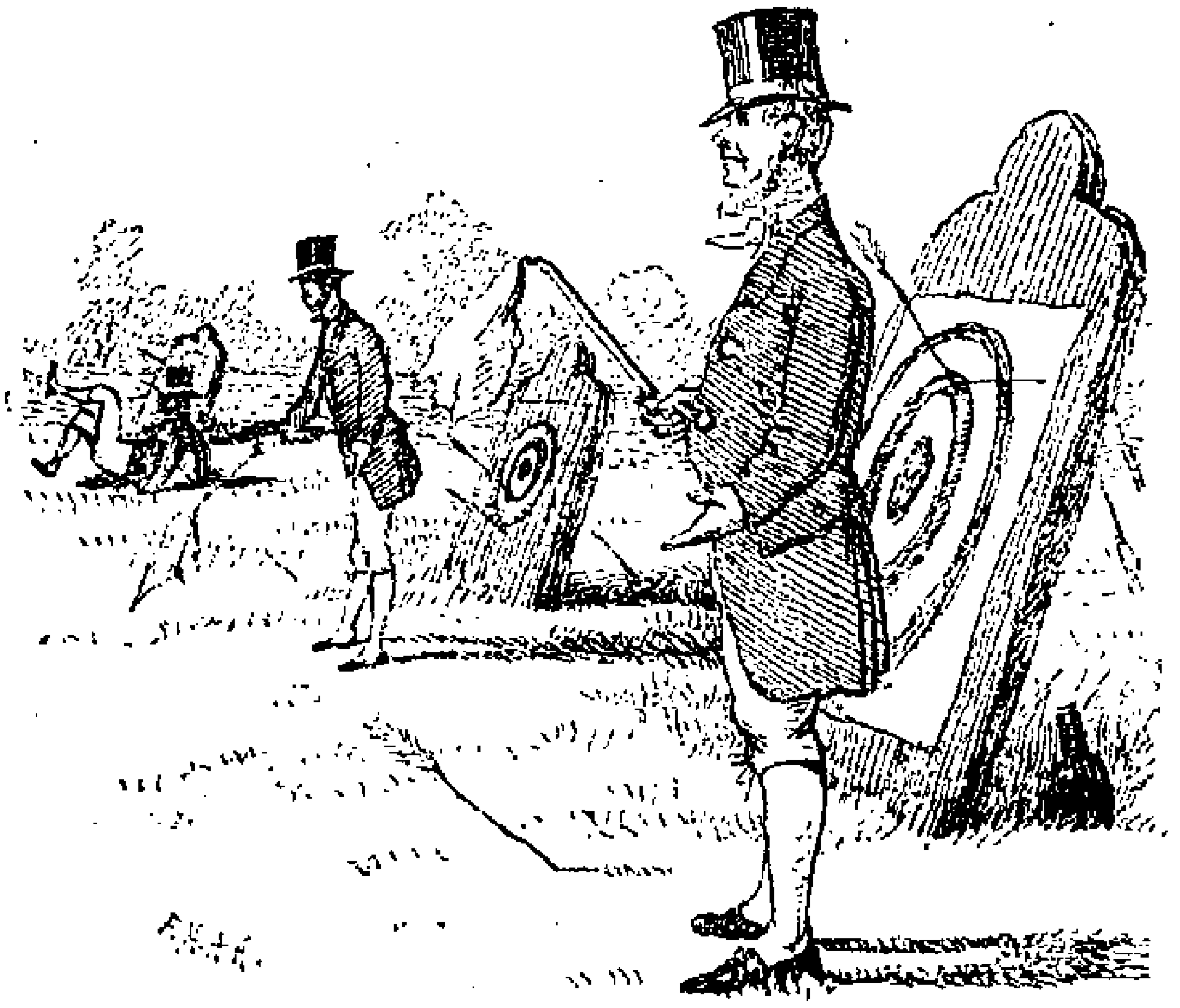


FIG. 136. The markers at the targets

CHAPTER XVI

ARCHERY OF THE PAST—SOME OF ITS ARCHERS AND SOME OF THEIR SCORES

BY MAJOR C. HAWKINS FISHER

JUDGE CALDECOTT

A WELL-KNOWN figure in the archery field was that of Mr. Charles Marriott Caldecott, of Holbrook Grange, near Rugby, who was at one time President of the G.N.A.S., and long officiated as its senior judge at their annual meetings. I always place him first in my individual archery recollections, because, like 'Tom Brown' in his 'schooldays,' I, too, early met Mr. Caldecott at Rugby; and, like that hero, I met him in the character of a judge. At this meeting I appeared as a schoolboy, convicted of no less an offence than that of trespassing in the preserved water and grounds at Holbrook in search of 'bait,' &c., for our lordly young masters, not of the school, I trow, but of the sixth form, in those much-belauded but overpraised 'Tom Brown's Schooldays.' May every poor young culprit meet with as kind and merciful a judge as we did then! This took place about 1840, and I met and renewed my old acquaintance with Mr. Caldecott at some forgotten G.N.A. Meeting, about 1863-4, to his immense amusement, once more in the character of my judge—I being a humble competitor at an archery meeting, and he the potent and dreaded judge thereof! In 1863, as in 1840, there was no escaping him. Slow he was and deliberate in movement, always taking his time, but sure. He was possessed of a 'beady'

black eye, with a peculiarly penetrating glance in it. The least transgression in overstepping the well-known lines of demarcation on the turf, between shooters and spectators, between the archer shooting and his successor (too eager to step forward and shoot), the forbidden talking, and many another suchlike offence, were sure to attract his notice. Courteous at the first, Mr. Caldecott was wont to become unusually decided and firm if the offender again transgressed. And, whilst a pattern of what an archery judge should be, and most witty, sharp, and humorous of speech, he was at all times able, and at most times willing, to add the 'fortiter in re' to the 'suaviter in modo.' Well do I remember the shape and colour, and especially the end, of his stout Indian cane with the silver rings, which he quaintly called his 'silver stick in waiting.' In waiting it always was truly, and never for so very long together, either; and many a time has it made much more intimate acquaintance than I desired with my transgressing feet. In those earlier days, 'alone he did it,' as judge; but he afterwards obtained assistance, as with improving archery the measuring of golds became a burthen; and soon the ladies obtained a judge to attend to their targets and interests alone. Truly I at least shall never forget my old judge's face, his personality, or even his clothes. They are so stamped on 'my mind's eye' that it seems but as yesterday that we met and shook hands, and parted, not knowing that it was for the last time, on the broad oak staircase of the Regent Hotel at Leamington (well known to archeresses, archers, and American travellers). For did not he then and there, between many a puff from the cheroot that, with his well-known umbrella and the dreaded stick, was his inseparable companion, deliver himself of the prediction that, if I continued to improve, in time (here his beady black eyes shone, and the cheroot smoked like a little volcano) I might probably —some day or other when Ford and his coevals were forgotten—be in my turn remembered as an archer; but only *then*! Peace to his ashes! I trow it will be long before we

see the like again of the acute Indian judge who so laboriously and successfully exercised his judicial talents in the mimic contests of the archery field. Mr. Caldecott by no means confined his services as judge to the annual meetings of the great society of which he was so long the president, but constantly officiated at the annual meetings of the archers of the Midlands, held at Leamington, from 1854 to his final retirement in 1881. He also placed his services at the disposal of many another well-known archery meeting, and was everywhere useful, beloved, respected, and obeyed.

HORACE A. FORD

I now approach the principal subject of this chapter, so long the central figure in the archery of the period, the famous archer, Horace Ford.

As I am not here proposing to write a biography, and as the facts of Ford's life have already been recorded in Sharpe's 'Archer's Register' for 1881, I shall venture to make the little that I have to say about him take the shape of personal reminiscence. I do this with the less reluctance from the startling fact of my old archery ledger's uncompromising assurance that I must have made his personal acquaintance some time in the year 1851. Our meeting took place, I think, in Buchanan's shop in Piccadilly, and through the direct intervention of that grand old bowmaker and clever humorous Scotsman himself. Ford and I happened to be both of us seeking one of the fine old self-yew bows of which Buchanan had at that time nearly a monopoly. I find also in the same old archery score-book that I shot my first York Round for the insignificant total of 63 hits 221 score with Ford (with whom I was afterwards to shoot so many), in the Montpellier Gardens, Cheltenham, on April 30, 1852, and it is now A.D. 1894!

I cannot find any account of Mr. Ford's having shot in public after the year 1869, in which year he shot in the Grand

National Archery Meeting unsuccessfully, being fourth in score; and I think he must have given up archery altogether soon afterwards. He also ceased to reside at Cheltenham, and I saw but little more of him save as an interested spectator at the progress of the G.N.A. Meeting at Bath (where he then resided) in 1870, and where the medal he had so often won and worn (for he was fond of wearing it in its proper place at a public archery meeting) was won for the second time by Mr. E. A. Holmes. This archer, I think, might well have become a second Ford if he had but devoted himself, like the subject of my sketch, to the study and practice of the art he had begun so well.

Ford won the Championship for the first time at Derby in 1849, with the score of 177 hits 703 score, having gained 'the points' by a majority of one only over his friend, Captain A. Penistone Moore, who was forty above him in score but four below him in hits. This was but an earnest of his future success, for he gained the coveted distinction thereafter no fewer than eleven times; and, more than that, in days when to the last no archer but he had ever succeeded in putting together one thousand on the Double York Round at any public archery meeting Mr. Ford compiled at least ten of such scores of four figures. Of these his two best were in 1857, G.N.A. Meeting, Cheltenham, 245 hits 1,251 score, and in 1858, Midland and Leamington Meeting, 230 hits 1,128 score. These two scores have never yet been equalled in public, and I am free to confess I do not think they ever will be! The long period of twenty-six years has elapsed, and I cannot help reminding my readers that in all that time (so far as I can recollect) there have been but seven scores of over one thousand each made in public, and not one of 1,100; and that these seven have to be divided between four living archers. Fine as Mr. Ford's scores made in public are, and much as many an archer of the present day tries, and tries in vain, to emulate them, they are entirely eclipsed by some of those he is believed to have made in his private practice.

Some of these are so marvellous (when the difficulty of getting up to or getting ever so little over 600 on the Single York Round is considered), that their accuracy and fairness have been questioned. I am happy, therefore, in being able to testify that I used constantly to go over to Cheltenham in those early days for the purpose of shooting a York Round with Ford in the Montpellier Gardens, and have no sort of doubt whatever on the subject myself. I once shot two such rounds in one day with him—the only time I ever did such a thing in my life. He never scored for *me* or gave me any hints or instruction of any kind; and I only once remember to have put down a score of *his* making in the field, in my book as he made it—and *that* one not one of his best. For I can only find in my aforesaid 'old archery book' one entry of a completed practice score of his—viz. on July 14, 1857. On this occasion it appears that I took it down myself, and it is thus entered: 'H. Ford 58, 272, 46, 252, 24, 138. Total 128, 662'; and it is further recorded as 'the first beginning of our usual shilling match—weather fearfully hot; our first shilling match on golds and reds. Ford scored upwards of 400 on those colours; he broke the string of his 54-lb. yew-backed-yew bow.' (I may here remark that I very seldom won much in these matches!) I also find that on November 11, 1856, I am stated in the same old volume to have been shooting with Ford, and that he broke his bow. It was the very bow itself which remains in his hand, and bends to this day, in the accompanying illustration. I can remember that bow well, and a fine self-yew it was, of Buchanan's make, and of 54 lbs. My old score-book expressly calls it 'the bow photographed in his book on Archery, a great pity, the string broke.' The figures 72, 55, 273 score are added, and nothing more. I do not remember Ford's ever taking more than one bow to the Montpellier Archery Ground; and he used only one bow at all the three distances of the York Round as long as I knew him to shoot. I do not remember seeing any but self-yew and yew-backed-yew bows hanging up against the wall of his dining-

Fig. 137. Mr. Horace A. Ford.

room, and I think they were all made by Buchanan, who, I need not say, did his best for such a customer. Now as Ford at that time in practice very rarely missed more than two or three at most of his shafts at 100 yards, and hardly ever one at either the 80 or 60 yards, I conceive that this catastrophe to his bow (which he much lamented) must have occurred at or about his fifty-fifth shot at 100 yards. How pleased would any archer now be with 273 for his *completed* seventy-two arrows (a result I confess I have never myself attained). It may perhaps be interesting to my readers and pardoned to a 'laudator temporis acti' to present to them here the only letter I have saved from the many received by me from Ford. It runs thus :—

Cheltenham : Wednesday.

Dear Fisher,—I'm vexed you could not come this morning, as it was beautiful for shooting, and because also I should have given you 'an eternal hiding' at golds and reds. I shot the 144 arrows, and made in these colours 548—that's all—getting altogether at 100 yards 69—371 ; at 80 yards 48—274 ; at 60 yards 24—154, 141—799. Mettez cela dans votre pipe and smokey le. Come on Tuesday next, if fine. I know of nothing to prevent my shooting on that day.—Ever thine,

H. A. FORD.

This fine score possesses the more of interest from the fact that it really is the second best score this archer is ever likely to have made and recorded. He has evidently forgotten to insert it when penning the passage concerning his best private scores in his own book, 'Ford on Archery,' 1856, p. 116, and second edition, 1859, p. 116. These volumes may not be in every archer's possession, and I shall transcribe the words in which he says :—

Under the risk of being considered egotistical, but to oblige the request of several correspondents, I now give the three following specimens of my private practice—I need hardly say my best. The first two are the Single York Round of six dozen, four dozen, and two dozen. At the first I made (with an Italian self-yew bow of Mr. Buchanan's, and 5*s.* arrows of Mr. Muir's) 71 hits 335 score

(missing the '59' shot), 48 hits 272 score, 24 hits 158 score, giving a total of 144 shots—143 hits 765 score. At the second (with a yew-backed-yew bow and same arrows), 66 hits 344 score, 47 hits 301 score, 24 hits 164 score; total 144 shots—137 hits 809 score.

I have little doubt myself that Ford here fully meant to have given his readers his three best York Round scores, made in private practice, and that it is his second best of these that I have thus happily been able to rescue from oblivion, though I admit that his next record—'the following is a St. Leonard's Round at 60 yards, 28 golds, 37 reds, 7 blues, 3 blacks: total 75 shots, 75 hits, 555 score'—may possibly have been made to do duty for the third York Round, which he had forgotten, but I have not! Mr. Ford always used most excellent arrows of 5*s.* weight, made by Mr. Muir, and, at all events at the time of which I am writing, with the very long feathers of that day. Ford was a very tall man, fully 6 ft. 2 in., I think, and his arrows were one inch longer than usual. I can never forget the impression that his shooting in the ease and quiet of our private practice invariably produced on my mind. We were mostly alone, few or no spectators being present. Sometimes, though rarely, his friend Mr. Bramhall was staying with him, and more rarely Mr. Maitland, Captain A. P. Moore, or a Cheltenham friend, Mr. Dawes, accompanied us, and of course shot. Ford's tall figure, the intense and concentrated attention he paid to every single arrow of the 144 of the York Round, without the least exception, from the 1st to the 144th (and herein lay his chief strength), the peculiar note of his fine 54-lb. bow as it delivered his 29-inch arrow without the string having touched his guard or sleeve, the extra high arch of his heavy Muir shafts, which were feathered or 'fletched' with turkey-feather wings, of what the moderns would deem preposterous length and size, their singularly steady and, to my mind, slow flight—made up to a young archer a remarkable whole.

How often does not an archer look at a friend's shooting from over his shoulder with friendly interest! How commonly

does he not see two arrows start, and fly straight and true, and the third, a little (yes, *just* a little, I know, but, like poor Mercutio's wound, 'it is eno', 'twill serve'), just that little 'out of it,' or if not so, then is it 'straight over—or straight under—by the back leg' with him. But what would be thought of all the 144 shafts flying *quite* straight, in the most remorseless and monotonous way possible? Only two or three of them all failing to produce that dull but well-known 'thud' that indicates invariably gold, red, or blue. Blacks Mr. Ford abhorred, and whites he seldom made. Golds were with him as plenty as blackberries, and so were reds, which he used to call 'lobsters.' Amongst such a number of golds, I have often been asked if the well-known 'three at one end' did not often appear. They most probably did, but I do not remember much about it (for in private practice 'the shilling for three golds' should not be thought of). The only instance that I can remember, of Ford's having made three golds at one end, in private practice with me, occurred in this wise. The difficulty is, of course, much enhanced at the 100 yards range, and one day Ford made two successive golds at 100 yards (or said he had). He then turned to me and inquired what I would wager that he would not make a third. With my usual rashness, I said 'Twenty sovereigns to one,' which I deemed a safe bet. Ford said, 'Not so; twenty shillings to one, for me.' Whereupon, after he had taken most especial pains with it, away flew his shaft and made a gold, visible enough, even to us, from where we were standing. He instantly held out his hand, 'Your sovereign, please,' and this he continued to demand of me all the way to the other target, where indeed he got it, for there were his arrows, all three unmistakably golds, and my own forfeited gold had to be added to their number.

Ford did precisely the same feat (also at 100 yards) in private practice with Captain A. P. Moore, except that in this instance he offered a bet of 5*s*. that he *would* make his third shaft a gold; the bet was accepted, and the gold as quickly made.

The following story of gold-making at 100 yards is related by Mr. A. P. Moore ('Arch. Reg.' 1881) as occurring in the private practice of Mr. Ford, Mr. Bramhall, and himself :—

One morning, as soon as we began shooting almost, the most extraordinary end I ever saw was made at 100 yards. It was a dull, heavy, dark day, with a perfectly still atmosphere, and the arrows looked like one huge lump in the middle of the target. We were unable to see what they were until we approached them closely, and then we found them to be six golds and three reds. Ford had three golds, Bramhall two golds and a red, and I had a gold and two reds.

Ford also won a silver bracer or arm-guard early in his career, presented by Mr. Hughes to the first maker of three golds at an end at the 100-yards range at a public match, with a suitable inscription on it, to commemorate the feat.

As every recollection of the 'style' of this great archer is now of interest when recollections can be so few, I shall say that as a whole it used to appear to me somewhat laboured, the flight of his shafts slow, and possibly the whole performance not of the most graceful kind—this I know was not solely my own remark, for I have frequently heard it made by others, and especially by ladies who were attracted to the target where Ford was shooting by his great renown. Both he and his companions at his target were occasionally inconvenienced by this notoriety, and I recollect, at Exeter, that at Ford's target I had three at least of my own shafts broken by one fair lady who persisted in walking on them—'a fitting punishment,' quoth Ford, 'for missing.'

In short, one could not help seeing in Ford's 'style' an impression of difficulties laboriously struggled with, and successfully overcome. He very properly bestowed the greatest care and attention on the so-called 'shooting glove' (Ford's 'Archery,' Butt, p. 57, *et seq.*), and the hold of the ends of the first three fingers of the drawing hand on the bowstring. I have always thought that his 'loose' (again I refer my readers

to the above capital work, chap. x.) was Ford's weakest place; for it was, I think, undeniably not of the very best. He persistently advocated the use of stop-guards or catches, made of leather, on the inside of the shooting glove or 'tip,' desiring, as he did, to compel the last joints of each of the three fingers to take a parallel grasp of the string—a method I have never myself approved of or adopted, nor do I think it wise to take, as he did, too small or short a hold of the string with the fingers, unless the bow be weak and the practice with it neither long nor persistent. I can well recollect in connexion with this that I constantly observed Ford's drawing hand to tremble very visibly before loosing, and that he, comparatively early in his archery career, damaged and finally wholly ruined his archery by (as I have ever deemed) thus causing a permanent weakness of the third finger of his 'drawing' hand; he never tried 'left-handed' shooting, I think. In this connexion, I may further add that I know that Mr. Maitland (his early archery friend), and others as well as I, always used to attribute the injury to the muscles of Ford's 'drawing hand,' but more especially the pronounced weakness in the third finger thereof, to his peculiar method of drawing the bowstring with the very extremities of his fingers, and not to excessive practising (for in this, according to my knowledge and belief, he did not greatly exceed), nor to the use of too strong bows, for his bows never exceeded a nominal 54 lbs. *at first* (such ever being Buchanan's method and practice), and there can be no reasonable doubt entertained that Mr. Ford's bows, after his considerable practice with each, seldom or never really much exceeded 50 or 51 lbs. in weight.

I should here like to remark again, as befits me well, that during all the time I knew Ford he invariably used but one bow throughout the whole York Round. He much reprobated and disapproved of changing bows for the three different distances, and never even contemplated the fatal error of changing bows during the shooting of any distance (*verb. sap.*)

I shall venture again to quote my own words concerning Ford's style of shooting, from the 'Archer's Register' for 1888, p. 46 :—

His peculiar style (of drawing) is indelibly impressed upon my memory—the gradual rise of bow and shaft from below, the gaze fixed on the target, the long, continuous draw till four inches alone remained undrawn of the arrow, the pause then for the aim—which he ever conceived, declared and illustrated by splendid results to be the correct method of aiming—then the completion of the draw fully to the bottom of the pile or steel, the left arm rigid as steel, but most singularly, the right hand and fingers trembled many times to and fro under the strain, neither smart, nor quick, nor smooth, his loose at last came off, distinctly hindered by the tremor of the strain—but it was finally done, and done to such a nicety and with such monotony as to be to me most irritating to watch.

After all said and done, I have myself not the shadow of a doubt that Ford's intense interest, carefulness and determination were the secret (which, after all, is no secret) of his extraordinary success with the bow. From the first to the last of the 144 arrows in the longest archery match in which he was ever engaged, he took the utmost conscientious pains with every individual arrow, which in all my experience I have never yet known to be done (and not only talked of) by any other archer whosoever. I used constantly to reproach him for it, and say that he shot as if his life depended on every arrow, and so he really did ; and 'the fixed glare of his eye' whilst aiming thus was quite remarkable. An anecdote of Mr. Maitland's is quoted in the 'Archer's Register' for 1888, as follows :—

When Mr. Ford was shooting at one of the National Meetings, and just as he was in the act of aiming, a lady standing by exclaimed, in a tone of admiration, 'Look at his eye!' With the majority of men such a remark, at such a moment, would be fatal to accuracy of aim ; but upon Mr. Ford it had no such effect, although the expression of his face betrayed the fact that he had heard it. He discharged his shaft, making an admirable round, and only then indulged in the laughter due.

Quoting myself in the same work, 'Shots at a Venture,' 1888, I find myself saying :—

Notwithstanding this command over his nerves, which Mr. Ford possessed in such a remarkable degree owing to his iron will, he was by no means free from the well-known feeling of nervousness itself, and so little could he bear the company of others at the target during a match, that after shooting he was in the habit (being generally also placed on purpose at an outside pair of targets) of at once walking off by himself and only coming back again to his companions when his turn arrived to shoot at the other target.

The attention he received was often enough to excuse his so doing ; but I also well remember that his wife was strictly forbidden to come over to the archery ground until the shooting was over, and for the same reason.

I think, with the author of 'A Day with Horace Ford,' 'Archer's Register,' 1883, p. 56, that Ford *did* very slightly bend his head over his shaft, unconsciously of course, for he notices this fault in his own book, wherein he also, at chap. x. p. 69, fully explains his own ideas of how the bow should be drawn ; in pp. 73–4 he notices the very common, but by them unseen, fault in archers of dropping the right hand, or letting it incline to the right or left on the completion of the draw. He omits, however, to notice the even worse and more common mistake of dropping the left hand and bow on the loose, and before the shaft has quite left the bow.

Ford treats in his eleventh chapter of 'aiming,' and says most truly that the 'aim' is undoubtedly the most abstruse and scientific 'point connected with the practice of archery.' He treats of it *in extenso.* I shall, therefore, myself only add that I am convinced he is perfectly right in strongly recommending that in all cases the direct vision of the archer should be upon the point of aim, and not upon the target or mark to be hit, though he confines the remark to ordinary target distances or any lengths within them. I would willingly enlarge upon this specially difficult subject of such great interest to all archers, who alas ! to this day 'aim' in so many and so widely

differing ways, were not Ford here my text, and not the many difficulties of our craft, which his book has certainly done much to lighten. '*Suum cuique*'; but alas! there are many ways of 'aiming,' and they cannot *all* be right; no two men or women dance exactly alike, nor do they shoot exactly alike. I may mention as an instance twins of my acquaintance, alike in form and feature, and thereby the despair of their friends and acquaintances, alike in all but in their 'style' with the bow—for herein were they as dissimilar as any other pair of archeresses on the ground. All I can say is that Ford's advice on this, as on nearly all archery subjects (except, I think, his advice respecting the hold on the string by the tips of the three drawing fingers) is the best ever yet laid before the public.

Ford's arrows, when I knew him, were 29 inches in length—and, I believe, very early of the cylindrical or parallel pile shape, so much preferred to the present day by most archers—and they were feathered with the very long wings of turkey feather then in vogue. I am unable to date the introduction of the present vastly reduced size and length of these wings, as well as of their entirely altered shape. I think that Mr. Henry Elliot and the late Rev. William Rimington (champion in 1868-69, 1877-79) have much to answer for as to the reduced size, and I myself for the 'balloons'; I am not aware that any shafts thus feathered were ever used by our great modern archer. For all who desire a low flight of arrow and greater speed, the change is acceptable, but, devoted slave as I have ever been to this style of flight, I am not prepared to say that arrows so fletched possess any advantage in the way of hits in the target at York Round ranges over their predecessors of the far longer wing. These latter shafts certainly *do* arch high, and doubtless travel slowly, but they appear to me to be much less deflected by our enemy, the wind, and, on the whole, to hold a truer course. (Perhaps it will be said that they also require another Ford to guide them as constantly to victory.)

It is true that Ford's arrows were propelled by bows of

nominally 54 lbs.; nevertheless I have often thought that the present very much lowered trajectory of the arrow may be too dearly bought. The question of the shape of arrow alone remains. I believe that Ford advocated and introduced the cylindrical form of shaft, also somewhat clumsily called 'parallel pile,' and as his arrows weighed 5*s.*, they looked massive enough with their lengthened wings of 5 inches each—I may add my own conviction, that cylindrical arrows are *not* the best for archers who for any reason desire to use 4*s.* 6*d.* arrows, or less (arrows, according to old custom, are weighed against new silver coin), as in these there is not sufficient wood to stand the strain of any but a very weak bow; arrows of 4*s.* 6*d.* and less should be of the barrelled shape, and in this guise do they fly straight, and stand any strength of bow usually adopted well enough. Their piles, of course, are much smaller than those of their 5*s.* brethren—and wings of peacock wing feathers are deemed the best.

Ford was a good musician, and loved his violoncello only second to his 'trusty yew.' He excelled at billiards, and especially at pool, though his concentrated attention to his stroke and the time and pains he took about it were somewhat tiresome to witness. I shall vary these dry details with a story told of him in the 'Archer's Register, 1881, p. 59:—

Ford once thought he had met with his match, or rather more than his match, at archery. It was at a meeting on the Royal Ground. He had just shot his end—the distance being 100 yards—and made a central gold. 'I'll nock that arrow of yours,' remarked a stranger airily, stepping forward to shoot in his turn. He shot and kept his promise, his very first arrow splitting Mr. Ford's last from nock to pile. 'Do you often do that sort of thing?' asked Mr. Ford, as soon as he had recovered from his astonishment. 'Oh, yes, frequently,' was the reply given in the tone of jaunty self-satisfaction indicative of the consciousness of power. However, said Mr. Ford, in telling the story, 'as he never hit the target again all day, I concluded it was an accident, and was relieved accordingly.'

This approaches to the dimensions of a 'tiger story,' but

I would premise that Mr. Sharpe, who then edited the 'Archer's Register,' was most laborious and particular about his facts and statements, and it reads as though told to him by Ford himself. Be this as it may, it can safely be said that the splendid and visible results of Ford's archery practice (for I don't remember his bestowal of much in the way of precept), his well-considered and plain directions for the accomplishment of a very difficult task, in his writings, and his long and great success, undoubtedly laid the foundation for the improvement that took place in his time, and which has, I think, if somewhat slowly, continued in the archery of the present day. Honour therefore where honour is due. As long as archery in anything like its modern guise continues to exist, so long will it be indissolubly connected with the name of 'Horace Ford.' It may be deemed perhaps a fitting termination to any account of this great archer's career, and an instance of his indomitable will, to mention that after his physical breakdown and defeat by George Edwards in 1860, Ford set himself the task of once more regaining the championship. His only hope of doing so was to find the contest conducted in two successive, perfectly calm days. The G.N.A Meeting of 1867, that year held at Brighton, July 24-25, brought him these exact conditions, and, though using very weak bows (not much over 40 lbs. in weight) and light arrows, he carried off the championship for the twelfth time, with no less a score than 215, 1,037. Edwards was only third, and never shot in public again.

THE REV. JOHN BRAMHALL

In no reference to archers of the past can one afford to omit this gentleman's once well-known name; I knew him very well so along ago as 1851, and often shot with him, with Ford at Cheltenham, as he was that gentleman's chosen companion and nearest equal at the targets. I remember Bramhall's genial, handsome face, tall figure and pleasant

manner, still. Ford invariably called him 'Robin,' or 'Robin Hood,' and he well merited this archery name, for I invariably place him in my archery recollections as second only to Ford, and immeasurably his superior in grace of style with the yew. In fact, his style *was* as graceful and easy and his loose as admirable as (in my opinion) those of his great rival were the reverse. His sole but fatal defect as an archer was the want of nerve, a quality so conspicuously enjoyed by Mr. Ford. Though very desirous of obtaining the Archery Championship, Mr. Bramhall never once succeeded, owing, I believe, to this want of nerve alone; for in private his shooting will bear comparison with, and indeed excels, that of any other archer with whom I have been acquainted, save Ford's alone, from about 1853–57 to the present day. His arrows of 5*s.* weight, and with the long and heavy feathers of the day, travelled at a great pace, and had, for such shafts, a flat trajectory, forming in this respect an almost ludicrous contrast to those just shot by Mr. Ford as he left the target for his friend to step up to it. An excellent notice of all that concerns Mr. Bramhall as an archer will be found, as usual, in the 'In Memoriam' columns of the 'Archer's Register' for 1890, from the pen of the editor, Mr. Follett, and with grateful acknowledgment I shall avail myself of what he has there collected in order to finish my 'recollections' of a man for whom I long entertained a warm esteem. Mr. Follett tells us that Mr. Bramhall's best Single York Round (in private practice) was made on November 25, 1851, and thus: h. 61 s. 317, h. 41 s. 223, h. 23 s. 135; total, h. 125 s. 675.

In 1849 the *average* of the fifty-four York Rounds he shot was 453 score from 103 hits, in 1850 it was 502 from 110 hits in seventy York Rounds, in 1851 it was 561 from 117 hits in sixty-four rounds, in 1852 it was 575 from 117 hits in fifty-two rounds, and in 1853 it was 567 from 114 hits in thirty-eight rounds. In shooting at 100 yards he has made 4 golds in four consecutive hits, and often 3 at one end. At 80 yards his best in forty-eight arrows was 47 hits 273 score; at 60 yards his best record is 24 hits 172 score, and 409 consecutive hits and

5 following golds. His best Double York Round was h. 107 s. 535, h. 91 s. 497, h. 48 s. 290, h. 256 s. 1,322, shot on June 26 and July 1, 1852, though, from the interval between the dates, this would hardly now be called a 'Double York Round.' Mr. Follett continues (and I quote this largely, as referring to 'archer's nerve') :—

Probably no archer, except Mr. Ford, could show such a record as may be gathered from the above figures, and if he had enjoyed the nerve which his great antagonist possessed, there is little doubt they would frequently have changed places in the prize list. The effect this physical infirmity, the want of nerve, had upon Bramhall's shooting is seen at once by the contrast between his private and public form in the years 1851, 1852 and 1853. His *average* scores for those years on the *Single* York Round were 561, 575 and 567, whereas at the Grand Nationals of those years he could only make 760, 778, and 733 on the *Double* York Round, and he never reached 800 at any meeting for the Championship.

Bramhall was very fastidious about his tackle, and infinitely preferred a foreign self-yew bow to any other. Buchanan and he were fast friends, and he frequented his workshop and took great interest in his friend's skilful handiwork. Both the archer and the bowmaker were born in 1809, and both died in 1889, within one month of one another.

I shall conclude my notice of Mr. Bramhall with an extract from 'Ford's Archery,' revised by Mr. Butt, p. 160. He relates the account of the G.N.A. Meeting for 1852, held at Leamington, and adds :—

This match had a most exciting finale. When the last three arrows alone remained to be shot, Mr. Bramhall was 2 points ahead in score. It was then a simple question of nerve, and Mr. Ford's proved the best, as he scored 14 to his opponents 2. The two gentlemen were placed at adjoining targets, and Mr. Bramhall's nerve was further disturbed by his hearing someone noisily offer to bet heavily in favour of Ford. Mr. Ford shot first at his target, and Mr. Bramhall second at his.

I was present myself at this my first G.N.A. Meeting and well recollect the occurrence. I also recollect an even closer

affair on a similar occasion—viz. at the G.N.A. Meeting in 1875, held in Sandown Park, Surrey, in which Mr. Palairet and I were exactly equal in score, when all but the very last arrow of the two days' match had to be shot, *and* I, at least, *knew* it, so I contrived to miss, and Mr. Palairet made a black.

CAPTAIN A. PENISTONE MOORE

This once well-known archer and attendant at public archery meetings—now, alas! no more—was coeval with Ford almost from the first, who refers to their shooting together in 1851, in his book 'Ford on Archery,' p. 113—and thus. In November 1851 a friendly passage of arms between Messrs. Ford, Bramhall, and Moore resulted in the following score—the Double York Round of 144 arrows at 100 yards, ninety-six at 80 yards, and forty-eight at 60 yards being shot.

Mr. H. Ford,	288 shots,	262 hits,	1,414 score
Mr. Bramhall	,,	250 ,,	1,244 ,,
Captain Moore	,,	223 ,,	1,045 ,,

The 100-yard part of the shooting was very good, Mr. Ford getting at this distance 127 hits 617 score; Mr. Bramhall 114 hits 504 score; Captain Moore 100 hits 440 score. This is not, however, one of the most favourable specimens of this last-named gentleman's shooting. The following is a better one, obtained in private practice, still the Double York Round—288 shots, 252 hits, 1,288 score. I extract from my old note-book (in which I have entered it from, I suppose, either Bramhall's or Ford's own report of it to me) the full scores of their first York Round in this match, and very fine scores they are, as under:—

	100 yards			80 yards			60 yards			Total	
Ford	72	63	319	48	46	272	24	24	154	133	745
Bramhall	72	57	243	48	46	236	24	23	149	126	626

Captain Moore entirely ruined his archery by his passion for bell-ringing (the tenor bell quite finishing it), and I have

often heard Ford declare that *he* had been forced to give up cricket (preferring archery when he had to choose between the two).

MR. H. C. MULES

Mr. Mules, who was, I believe, one of the Tithe Commissioners, took up archery somewhat late in life, and became very fond of it. He must have joined the Toxophilite Society about 1850, and nearly all his shooting took place there. His was the earliest good score on the testified 'York Round' recorded in the books of the Royal Toxophilite Society, and was shot there on August 24, 1858, and thus: h. 50 s. 240, h. 42 s. 232, h. 23 s. 131, h. 115 s. 603, and a good score it is. It has, I think, only once been surpassed there at a match by the under score made by Mr. G. E. S. Fryer (who is still a member of this Society) on August 2, 1872 :—

100 yards	80 yards	60 yards	Total
59 h. =289 s.	44 h. =218 s.	24 h. =132 s.	127 h. =639 s.

and by one other score of Mr. Fryer's and one of Mr. Ford's. This score holds the Wilkinson practice medal given to the Royal Toxophilite Society in 1866, and seems likely to hold it, though it is now A.D. 1894 !

In comparison with his excellent shooting at the Royal Toxophilite Society Mr. Mules's performances at the public meetings were disappointing. He never did himself justice away from the well-known ground of the Archers' Lodge, Regent's Park. Defective vision possibly caused this in some degree, but *I* always attributed it to this archer's habit of drawing his string by means of the very smallest portion of the tips of the finger-ends that I have ever seen before or since his day. I considered that this weak and critical 'draw' required for its successful use the quiet and ease of the accustomed ground, and fell to pieces amidst the trials of a great public meeting.

THE REV. WILLIAM RIMINGTON

This archer, who, beginning about 1859, continued to shoot in public until 1883, must have been well known to many of my readers. Mr. Sharpe thus describes him in the 'Archer's Register,' 1885, in his sad 'In Memoriam' column :—

He was undoubtedly good-hearted, impulsive, of excitable spirit, and with the quick tongue and manner of that temperament. His breezy manner at the targets and the constant outflow of a sunny disposition are lively in the recollection of hundreds.

I may add that it certainly was constant, for he was not only visible but audible as well, and how he contrived to shoot and talk as he did without removing his pipe from his mouth was a perfect marvel. A yet greater marvel to me and to all was the peculiar style in which he used to shoot; no one, not even he himself, could call it a good one, and most of us used to think that he shot well in spite of and not because of this strange method, though he himself declared that he never could shoot in any other way. Be this as it may, the result must have satisfied him, for he carried off the Archery Championship three times, and on a fourth occasion made the largest score, but lost the medal by points to Mr. Walters, and six times made over 900 on the Double York Round at a public match. Mr. Sharpe goes on to quote some bowman who thus and in the main correctly describes Mr. Rimington's curious style :—

'He did not draw up his arrow by three if not four inches from the pile' [in reality, far more], 'and how he could so take correct aim I cannot make out. I wished him to try a weaker bow and pull his arrows up to the head. He would by doing so have obtained a much more correct aim, and his arrows would have gone much lower and faster, but he would not do so. He used bows of upwards of 60 lbs.—probably 65 lbs.—but only got about 50 lbs. out of them.'

As 'style' is always a matter of interest to archers, and the method adopted so successfully by Mr. Rimington appeared

to most of us very faulty, I give it as my own opinion that, if he could have been induced to practise one more rational, he would largely have exceeded what he really did attain to. I do not think any other archer has adopted this method, and I hardly think that any will. Let us see what he accomplished with it. His record of public match shooting during his twenty-five years of it is doubtless exceptionally good. He always did better at 80 and 60 than at 100 yards (as was to be expected, I think), and throughout his career his 60-yards shooting was usually about the best on the ground. Confident and loudly cheerful, even in adversity he stoutly declared that his 60 yards would yet pull him through, and, sooth to say, it often did. A score he once made, I believe, still holds the record for 60-yards match shooting in the Royal Toxophilite records, thus—1872, 144 arrows, 142 hits, 840 score; and a great score it is. He often recalled this achievement with pardonable pride, inasmuch as he dropped only two arrows in his second end, and none in any subsequent portion of this long 60-yards shooting.

I am here induced to add a personal anecdote in connexion with Mr. Rimington on the archery ground, as it again bears on the vexed question of 'nerve.' In 1871 I was shooting at the Crystal Palace Archery Meeting, and shot the 60 yards on the first day for 24—152. In the course of this 'two dozen' I had made five consecutive golds, and my target was surrounded by many friends, probably many of whom had just paid me the customary shillings for my first three golds, and thought it would be hard to have to pay them again for my next three shots; but no one made himself so audible about it as Mr. Rimington. I resolved, therefore, to make the sixth if I possibly could, and took special pains with it; but, losing nerve, I very unwisely fancied that I must have tired my good self-yew bow, 'old Cupid,' 48 lbs., by its previous successes, and so aimed a shade higher, and loosed. We all supposed that three more consecutive golds *had* been made (which I never remember to have seen done at a public meet-

ing); but on going up to the targets my third arrow was obliged to be called 'a red'—just *above* the gold, though it was a very nice question which colour it really *did* belong to. I always blamed my late friend, and his loud voice, for this result!

GEORGE EDWARDS

This remarkable archer and man deserves more notice than I at least can here give to his memory; for he, like all I have noticed or propose to notice, has long since gone over to the majority, and has left little but his archery scores made in public behind him. As his archery career ended, as far as I can ascertain, in the year 1869, when he shot at the G.N.A. Meeting for the last time, I think, in public, few can now remember him. He first appeared at a public archery meeting at the third Grand Leamington and Midland Counties Meeting, June 18 and 19, 1856. In the year 1857 at the G.N.A. Meeting, that year held at Cheltenham, on July 1 and 2 (when Ford made 245—1,251, the best score ever yet made in public), he assumed the position of 'second to Ford,' which he kept for the rest of the time that that great archer shot in public; and constantly irritated and threatened him with defeat as his powers began to decline, until in 1860 at Bath, July 4 and 5, he succeeded in wresting the Championship medal itself from Mr. Ford's failing grasp with the comparatively moderate score of 188 hits 886 score. This position G. Edwards held in 1861, and in 1862 with 194 hits 902 score, and again in 1863 and 1866; five times in all.

Edwards had, I believe, been in his time a soldier, and certainly was a master of swordsmanship, being especially good with the broadsword. When he first appeared at a G.N.A. Meeting, it was understood that he kept the 'Earl Grey' public-house in Birmingham; but at a National Archery Meeting no candidate for archery honours is excluded whose character and conduct are unexceptionable. Edwards, therefore, soon became

a familiar figure on these occasions, and invariably behaved in a grave and modest way. He was an exceptionally powerful man, and though his left hand had been so mangled by the bursting of a gun that it seemed inadequate to the holding of the weakest of bows, he somehow contrived (by the aid of a pad over the lost thumb) to hold, and to hold both long and steadily, very heavy bows made of backed lancewood. I have often shot at his target, and wondered how he did it. He spoke but little, and then to the purpose, in what I deemed a very broad Lancashire dialect; and his shooting at 80 and 60 yards was firmness and accuracy itself, though his style was slow, laboured, and somewhat awkward to look at.

I am indebted to the Rev. W. K. R. Bedford for the following information :—

I saw a good deal of the poor fellow at one time, and had a high regard for him. The manner of our acquaintance was thus. After the G.N.A. Meeting at Leamington in 1852 or 1853, a match was proposed between Cheshire and Warwickshire, and I was requested by Colonel Granville to write to G. Edwards—who had shot that year, but whom none of us knew—to ask him to shoot for Warwickshire. I received a letter from him in reply, in which he said he had a fear lest I should have mistaken his position in life, as he was only a tradesman; but if, after that confession, we still desired him to shoot, he would do so. Granville and I both agreed that the letter showed true gentlemanly feeling, and he did shoot accordingly. Then I asked him to come and shoot with me, and I well remember his first three arrows on my ground were two golds and a red. He was a quaint and clever, though uneducated, man.

I shall draw upon my own recollections for the following story. I well remember Edwards telling me that having once just received twenty-four new arrows, he took them to his ground to try them; that he went to his 60-yard targets, and shot the whole of these arrows consecutively from one and the same end, making twenty-four hits. There is little of the extraordinary in this, but a good deal in what he declared was the fact—that on crossing over he discovered that he had twenty-

four hits and twenty-four reds! The story is well known, and was always related as above. I have made many inquiries about it, and, strange as it sounds, may say that an archer now living, who probably knew Edwards better than anyone else, told me with reference to this very story 'that he had never found him untruthful.'

Dean Hole, in his pleasant 'Memories,' p. 10, has an anecdote of Edwards:—

> Mr. Edwards, of Birmingham, a successful archer, communicated to me an incident which blended tragedy and comedy in a remarkable degree. He had received a dozen new arrows from Buchanan, and went forth to try these in a paddock adjoining his house. He had made eleven successive hits at 60 yards, and was delighted with his purchase, when a cow which he had not observed slowly approached the target and pushed it down with her horns. 'You will guess what I did,' he continued. 'It was no longer in my power to make a bull's eye, but I touched up the other end of the cow'—

and I think Dean Hole must have touched up the story.

> It is generally believed that Mr. Edwards's private practice was far beyond his public shooting. He has been heard to say that, though Mr. Ford had been able to land only seventy-one out of the seventy-two arrows shot at 100 yards in the targets (missing his fifty-ninth arrow), he (Mr. Edwards) had put all his seventy-two arrows into the target at the same distance.—*Ford on Archery*, Butt, p. 293.

Edwards died about 1870.

THOMAS LANE COULSON (BRISTOL AND CLIFTON)

Mr. Coulson is another instance of fair success attained with the bow when only taken up for the first time very late in life. He was fifty-one years old when he first began shooting; but he soon took a great liking to archery, and pursued it with the energy and perseverance which so distinguished him in many another sport and pur-

suit. I knew him well, constantly shot with him, and paid much attention to his singular style, which, like that of most of us, was 'sui generis,' but certainly on a very different pattern from that of most. He held his bow across his body much more than is usual, and his right or drawing hand very much lower. As he adopted a somewhat snatching style of drawing and loosing, never touched brace or arm with the string, and used lovely self-yew bows, his arrows took a very low flight; quite remarkably so for the small weight or power of the bows he used—viz. about 45 lbs., or even less, at all distances. This somewhat bizarre and hazardous style of his is thus commented on by 'Weatherman' (the late J. Sharpe) in the 'Field' of 1863: 'His shooting is remarkable for strength and power, and his arrows for a flight unequalled for strength and beauty.' And so they were; but I have often told Coulson that the moment he became unable to shoot exactly in this way, and with the curious mechanical perfection with which he certainly did perform the difficult task, he would lose his accurate shooting, as, in fact, he not long after did. As a proof how exactly when at his best he shot arrow after arrow in the same strange way (a distinct snatch back, for some inches after aiming and an instant loose, this being usually found the most trying of all styles with the bow), I well remember three golds he made at one end at 80 yards at a public meeting. They were in the form of a very small triangle surrounding the pin-hole of the gold, from which no one was further off than half an inch!

As Coulson was a powerful man and used such weak bows with so very easy a style, he was enabled, in pursuit of this—so to speak—'hobby' of his old age, to get through an amount of practice at the targets very rarely surpassed by any archer of any time of life. It certainly must have been a labour (even if a labour of love) to have shot, in 1860, 17,884 arrows; in 1861, 83 York Rounds; in 1862, 95; in 1863, 113; in 1864, 105, and in 1865 no less than 124 complete York Rounds; and all these his well-kept notebooks assure us that he shot as

quoted. He never made very large scores anywhere; I think that his two scores at Leamington—1866, 832, and 1871, 815—are his best public performances, and he only very rarely appears to have exceeded 500 on the York Round in private practice. Coulson thoroughly enjoyed a public archery meeting, and his unfailing good spirits, wit, good nature, and energy went very far to make him popular, and to render the meetings he attended a success.

WILLIAM JOHN GRUGGEN (MERSEY BOWMEN)

Mr. Sharpe, 'Archer's Register,' 1883, p. 78, remarks, in his obituary notice of Mr. Gruggen, who died in that year, that he was 'not in the common roll of men on account of his many sterling qualities of mind and heart'—praise which I believe Mr. Gruggen fully deserved. For the purposes of this paper, however, it will suffice to say that he certainly was 'not in the common roll' of archers either, for he drew his bow and shot his arrows in a way and style which he alone, of all the fellow-craftsmen of the art that I have seen or heard of, ever employed. From some cause Mr. Gruggen was unable to draw the bow by means of the usual so-called 'release' adopted by European archers, for which he had to substitute the cleverly arranged mechanical device of a smooth steel clip, embracing the nock of his arrow so firmly that, having 'nocked' his shaft in the usual way, and affixed the 'mechanical loose' to its horn or nock (which practice enabled him to effect with great ease and readiness), he proceeded to complete 'the draw' not at all in the usual way, but by means of a broad double belt of leather attached to the steel clip and passing round the elbow of his right arm, from which it was suspended—a backward movement of the strong right arm, a firm grasp of the bow in the usual position by the left hand, finished the business. Having completed the draw in this strange style, and found his aim, Mr. Gruggen had nothing more to do than to touch a small trigger and open the clip. This effected 'the release,' and away

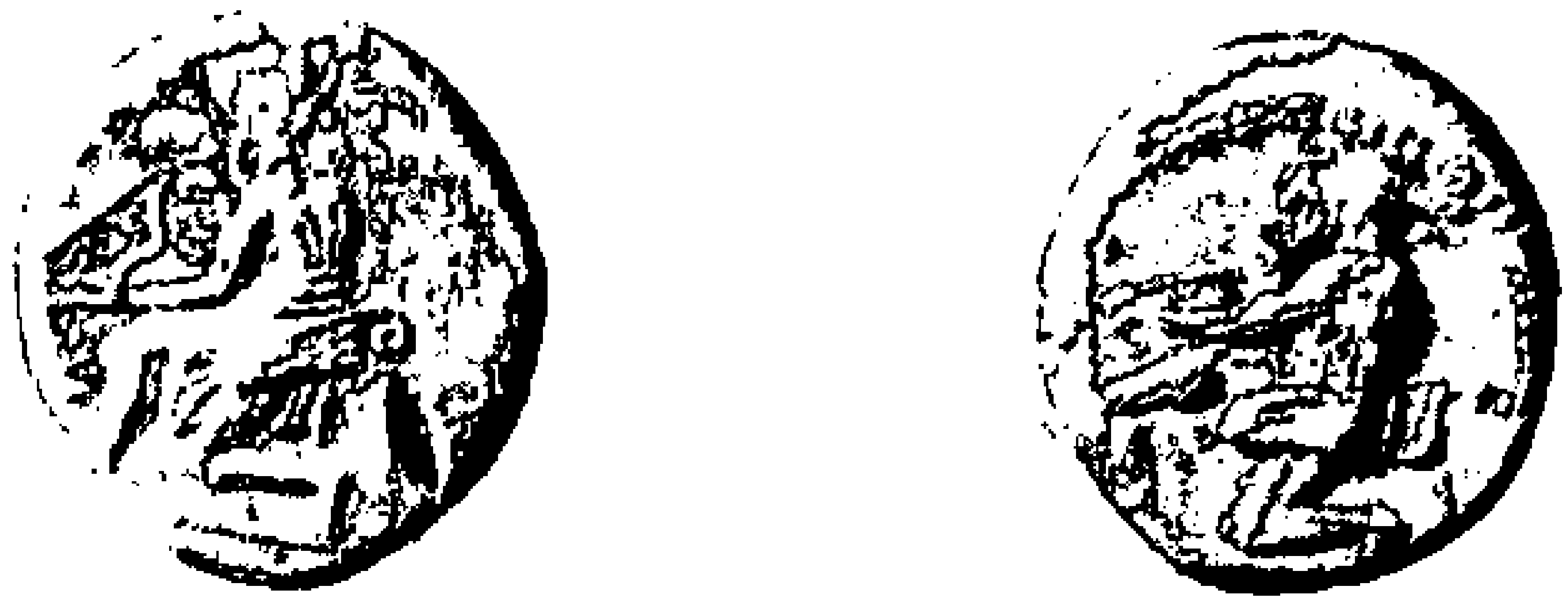
sped the arrow on its way to the target. The author and user of this contrivance (though it enabled him to enjoy shooting a York Round in public or in private with perfect ease, being otherwise incapacitated from all archery) never appeared to me to do much with it. For this result, I do not think the above-mentioned clever mechanical contrivance could be blamed. I never tried it myself, but I well recollect seeing the late Mr. Betham (at the end of a day's shooting) borrow Mr. Gruggen's 'mechanical loose,' and try it himself. I also remember that he made a gold at his first attempt, and said it was delightfully easy and effective. This he might well just then have thought (wisely leaving off); for the loose, which contrivances of this kind render nearly perfect, is probably the greatest of the many difficulties to be overcome by the successful archer. I am not aware that Mr. Gruggen ever won a prize at the many G.N.A. Meetings at which I have seen him thus shooting in high good spirits and with cheerful pleasure; it was, however, decided at the Richmond Meeting of the G.N.A.S. that he would be eligible to receive one.

PETER MUIR

On leaving school, Muir was set to learn his father's business as a 'wright,' but the part of it to which he took most kindly was the making of bows and arrows. In this latter department he attained a proficiency which has never been surpassed and seldom equalled in modern times. His reputation soon travelled far beyond his native village, and in 1829 he was appointed bowmaker to the Royal Company of Archers, an office which he filled with credit to himself and the Company till 1877. As a bowmaker, Mr. Muir (his arrows being remarkably good) was known wherever archery was established, and he was also an archer of no mean ability. His well-known handsome face and figure, and white buckskin shooting gloves, were seen at many a Southern Public Archery Meeting, as well as with the Edinburgh Salisbury Archers, and

few archers have been more respected and better liked than he. In archery he probably and naturally (from his connexion with the Royal Company of Archers) excelled most at the long ranges, and I think his best arrows have never been surpassed. He died in 1886.

STATE CENTRAL LIBRARY
THIRUVANANTHAPURAM
KERALA



FIGS. 138, 139. Silver staters of Soli in Cilicia

CHAPTER XVII

THE BOW

BY COLONEL WALROND

OF all the implements of archery, the bow naturally first claims our attention. It is not intended here to speak of ancient bows or of the numerous forms of the weapon which have been in use in various times and nations, as that subject has already been treated at length in previous chapters. It is proposed to speak only of the bows at present in use in England and America for target-shooting—describing what a bow should be, how it is made, how to choose it, and how to keep it in an efficient state.

Bows are of two kinds—'self' and 'backed.' The first, when of yew, is made of two pieces, grafted or spliced in the middle, each limb being in one piece; the latter is made of two or more strips of wood fastened together. It may be as well to explain that the part of the bow which is flat and furthest from the shooter is called the 'back,' the rounded part nearest the shooter is called the 'belly,' and the part in the middle, which is covered with velvet or other material, the 'handle.'

Self-bows are made of yew and of lance, the latter being the cheapest bow obtainable; but it is of little use except for beginners to practise with, as it has not much cast, is heavy in

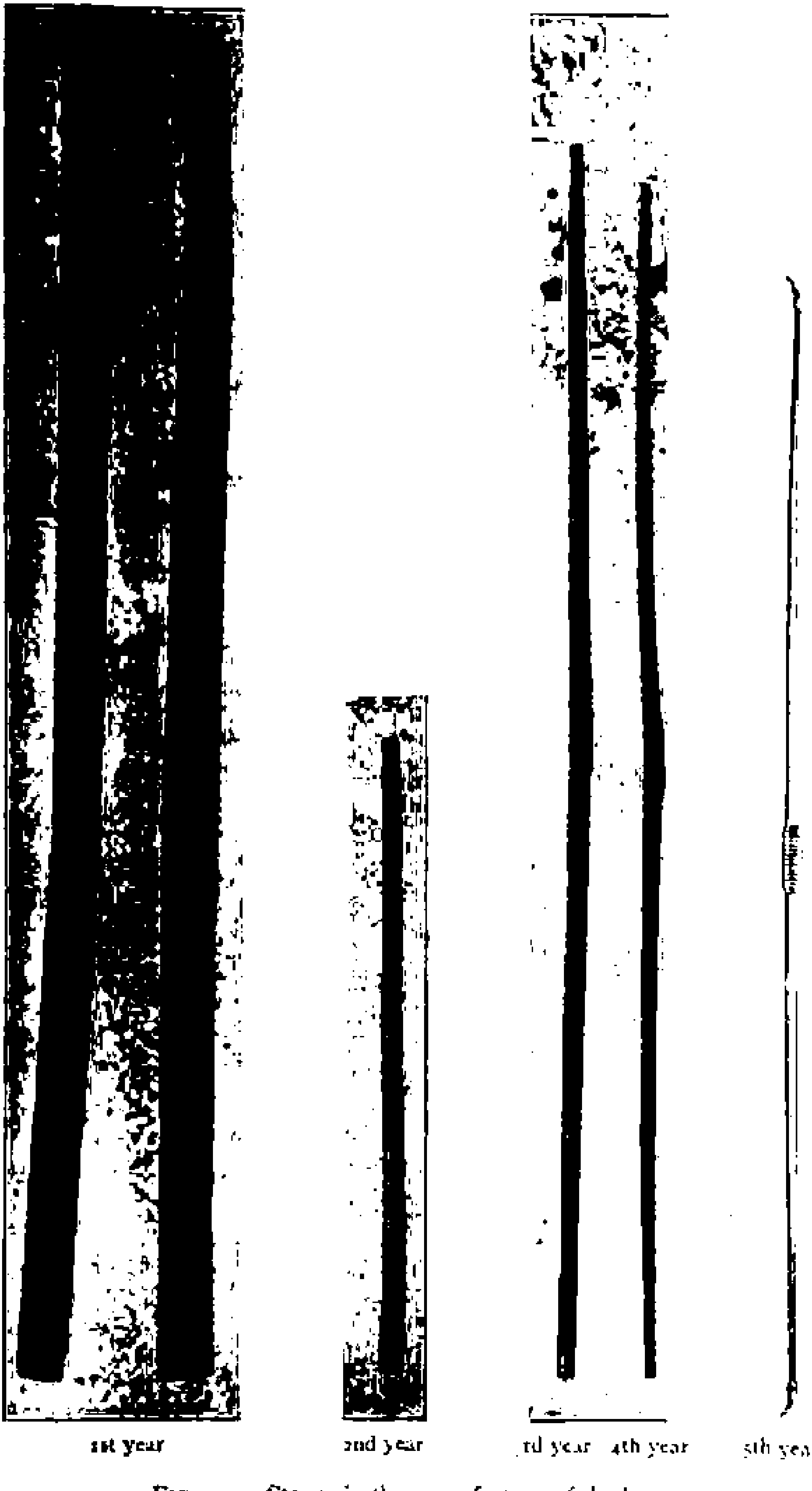


FIG. 140.—Stages in the manufacture of the bow

the hand, and will not last long. Yew is the only wood which will stand well and is fit for a self-bow; but, unfortunately, suitable yew is as scarce as it is good, and consequently it is proportionately expensive.

To make a really good bow it is essential that the wood should possess certain qualities: the grain should be close, straight, and even; the line dividing the sap and wood should be clear, even, and well defined, and it should be free from knots and pins. It is in all these points that yew is especially liable to fail; and though some of them can be remedied by skilful workmanship in the manufacture, such as lifting the knots and pins, or leaving more wood where they occur, and careful manipulation so as to place any knots where they will do the least harm, still, any bow which fails in these points is more or less defective, though the defect may be trivial.

From the phrase—'the English yew bow'—so often used by ancient writers on the subject, it might be inferred that bows were formerly made from yew grown in England, and to a certain extent this was the case; but then, as now, the best wood was imported, the native-grown wood being vastly inferior to that procured from foreign countries. The best yew comes from Spain and Italy; and the more rugged and mountainous the part of the country where it grows the better the wood is said to be. The grain of the wood is also different on different sides of the same tree, that on the most exposed side being the closer. The trees should, when cut down, be in full vigorous growth, and of fair age, though not too large, the slow-growing trees producing the best material. Great difficulty is said to exist in finding suitable trees at the present time, as the happy hunting grounds of the bowmaker of thirty years ago have been depleted of the most likely trees; so that it is now necessary to find fresh and unexplored regions in order to obtain good trees. These are selected as straight and free from knots as possible, and from eight to sixteen inches in diameter; but, owing to the 'cussedness' of yew, it is quite a lottery how they will turn out, a tree apparently free from

knots when growing being found on cutting up to possess quite an undesirable assortment of them below the bark; while, on the other hand, a knot which has given considerable doubt to the selector as to the wisdom of his choice, may turn out to be only on the surface, or to come conveniently on the outside of the section, so that it can be cut out of the bow altogether.

On the arrival of the selected trees in England[1] they are kept in the log for a year. The tree is then cut into lengths of about 7 ft. 6 in., and sawn longitudinally into as many sections as the bowyer thinks it will make bows; these are left for a year to season. The next year the bark is removed, and the sections are roughly trimmed and cut into lengths suitable for limbs. If the section seems good throughout, it is cut in two in the middle, so as to form two limbs; but if a knot or shake appears which would render one-half of it unfit for a limb, then the defective part is cut off, only one limb being procured from that section. The limbs are then put aside once more for a year. The third year the limbs are carefully examined and looked over with a view to being matched to form the bow. Those which appear to promise to assimilate best with each other are selected and tied together, the remainder being put on one side. The selected limbs are now trimmed into what is called the square, all possible knots being cut out, and carefully joined together by means of a double fish-joint. This is a somewhat delicate operation, as the joint must be carefully made, and none but the very best glue used. For choice this is always done in the spring, as it is desirable that the temperature should be neither too hot nor too cold, so as to allow the glue to set properly. The two limbs which are to form the bow being now fastened together, another year elapses before anything else takes place. It may be as well to mention here that the 'fish' should invariably be

[1] For the particulars of the manufacture of bows and arrows, I am greatly indebted to Mrs. Aldred and Mr. Izzard of 110 Edgware Road, who allowed me access to their workshops and gave me any assistance I required.—H. W.

double and not single, and that no splice should be in any way disturbed for at least six months after it has been made. In the fourth year the centre of the bow over the splice is served with hemp, strongly glued on, in order to strengthen the splice, and also to form a foundation for the handle, a small thin piece of soft wood having been glued to the back, to give it the required roundness at this point. The bow is then made approximately to take its proper shape, any pins (which appear as small black spots) and knots are 'raised'—i.e. more wood is left round them than on the surrounding part of the bow—and another year's grace is allowed it. The fifth year the horns are put on; the bow is strung and alternately drawn and pared till the two limbs have acquired the desired shape, and even bend. When this is found to be the case, it is weighed, the weight marked on it, and the bow is ready to have the handle

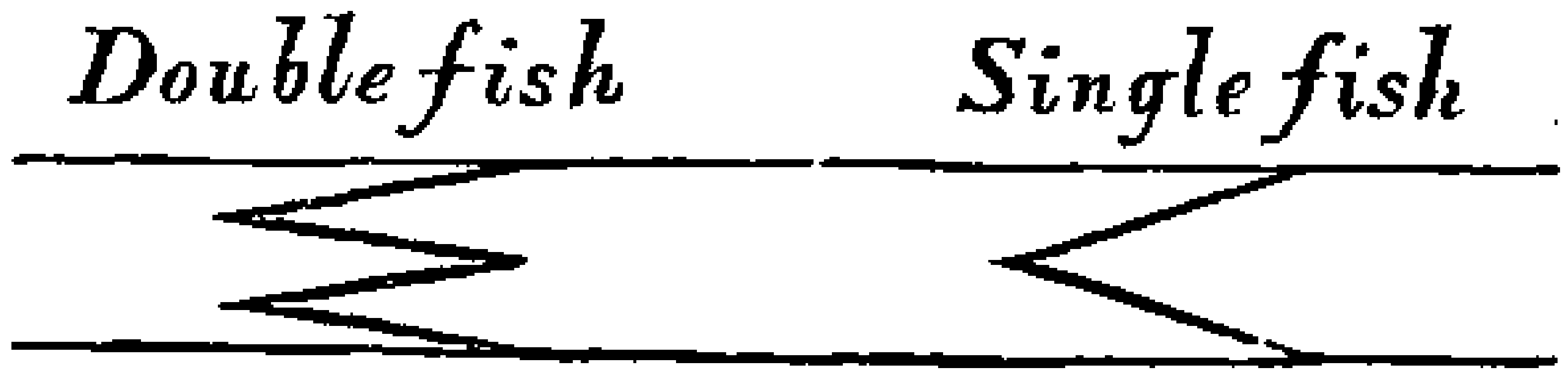


FIG. 141

put on and receive the final finishing touches and polish. It is advisable to keep the bow in this state, and not to polish it at once, as it will continue to season better without the polish, which keeps the air from the wood.

The process of manufacture of a backed bow is not nearly so elaborate. The hickory and hard woods are kept in strips for about twelve months. The yew portions are either the parts of limbs which have been rejected as unfit, owing to a defect in the sap or wood, to be made up into self-bows, in which case they are spliced at the handle as before, or else the part to be used for the belly is sawn into strips about one inch and a half by one out of a log too large to be divided into sections for making self-bows, which had, owing to its age, lost the sap or white part.

The strips of wood having been duly prepared, they are

placed in a strong wooden frame with an iron bed, having at regular intervals iron loops projecting above the bed. The strips, either two or three, according as a two- or three-piece bow is required, are then glued together by two men, one working from each end of the frame; which being accomplished, wooden wedges are placed between each loop and the bow and driven home, so as to press the glued strips as much as possible against each other. The bow is then left till the glue is quite set, when it is finished in the same manner as a self-bow, except that the handle is for greater security lapped with string instead of hemp.

All bows, whether self or backed, should, when finished, have much the same shape, except that three-piece bows may with advantage be made 'whip ended'—that is, the ends may be reduced more rapidly than is advisable for a self- or

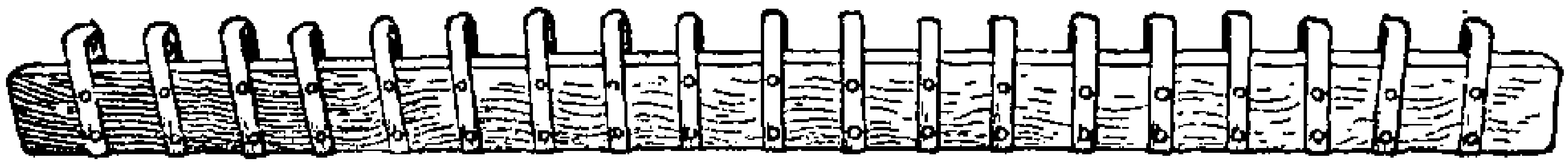


FIG. 142. Frame for making backed bows

yew-backed-yew bow. The bow, when unstrung, should on looking along the back appear perfectly straight, and not reflexed or set back in the handle, and the back of each limb should be in the same plane. In the case of self-yew bows, it is absolutely necessary that the natural grain of the wood should be followed, as any attempt to straighten a limb by artificial means would be fatal to it. Consequently, if the tree was not originally quite straight, the limbs have to be spliced at an angle which will give the bow the 'Cupid' shape, or they may of necessity have to be placed so as to follow the string. This will not materially affect the bow, but in the case of backed bows none should be otherwise than straight in the back. Formerly it was the custom to make backed bows reflexed, and many bows are still made slightly so; but any of these will give an unpleasant kick when loosed, and should be carefully avoided. The reflexed bow is the worst possible

shape, as it bends from the handle ; and as the ends have to go further than those of a straight bow to get to their rest, an unpleasant jar or kick is unavoidable ; this is also the case with a bow which is set back in the handle, though in a minor degree. Bowmakers say a backed bow which is set back in the handle will keep its cast longer than one with a straight back, and that it will gradually lose the jar ; it certainly may do so, but unless one can find a confiding friend to get it into shape for one it is best avoided. We have seen that the bow should be straight in the back ; the back should be flat, with the edges slightly rounded off ; and the belly should be gradually rounded. If the back is too broad the belly has to be made too pointed, which makes it liable to crysal ; and the limbs also are apt to get pulled out of the straight, or be 'cast' with use.

A bow should have an unbendable centre of about seventeen inches ; from that to the horn the bend of each limb should be gradual, and similar. Should one limb bend more than the other, the bow will lose its cast, and not improbably the weaker limb will sooner or later break. The top of the handle should be rather above the middle of the bow, so that when the bow is grasped with the left hand, the ball of the thumb will rest upon the centre of the bow. The horns should be set true on the bow, and the edges of the nocks should be smooth so as not to cut or fray the string.

The length of a bow should be in proportion to the length of the arrow to be used with it, and also to its own weight ; a short bow will give a sharper cast than a long one, but to shoot a 29-inch arrow out of a short bow would be dangerous to the bow. Bows are now generally made longer than was the case formerly, as the wood is not so good as it was, and probably also not so well seasoned. The length of a bow of, say, 50 lbs. to be used with a 28-inch arrow should not be less than 6 ft., measuring between the nocks. If a longer arrow is used, it certainly should not be less than 6 ft. 1 in. ; if a 27-inch arrow is used, 5 ft. 11 in. would do.

Having described the shape of the bow, it is necessary to hark back and say what the appearance of a self-yew bow should be. The division between the white back and darker belly should be even, straight, and well marked, and look almost as if the bow was a backed one, and not a self. The back should be of even depth, and free from feathers, the grain running straight. The grain of the belly should be close, even, straight, and free from curls from end to end. The feathers, or ends of the grain, which show on the belly where the bow

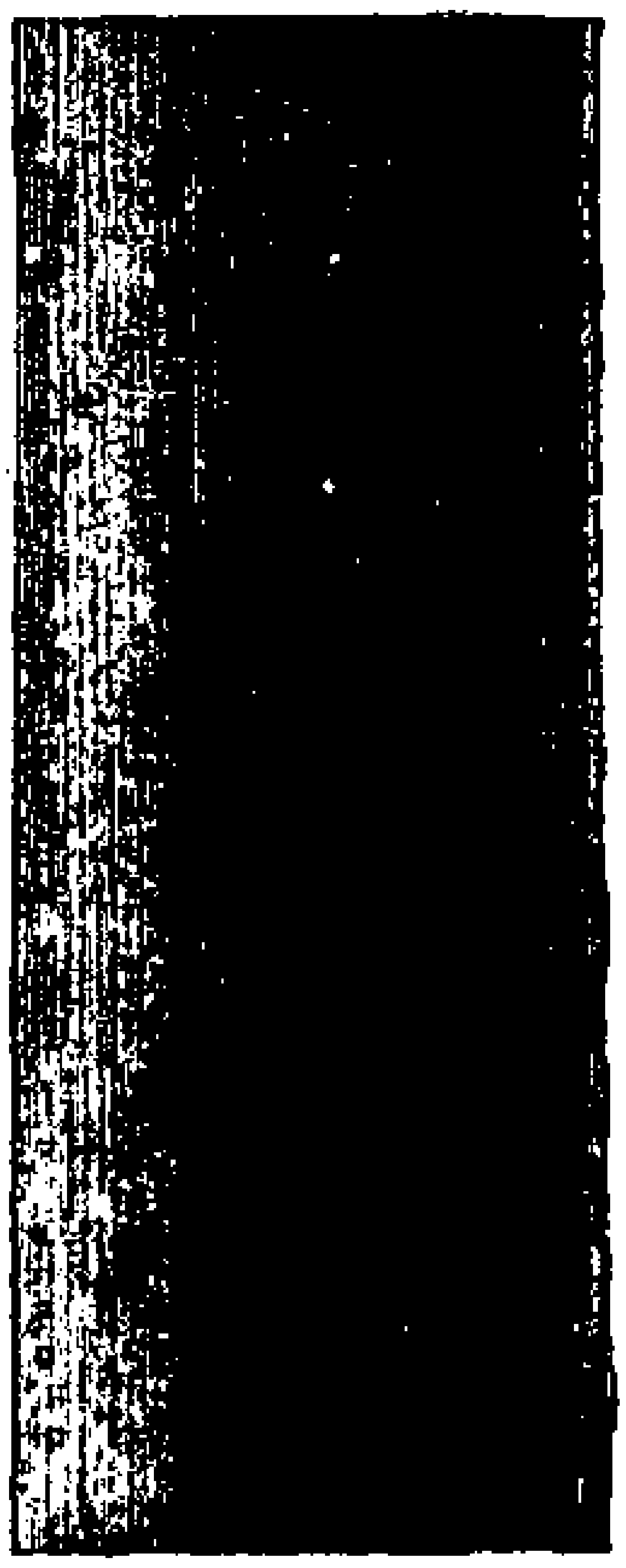


FIG. 143. Good grain

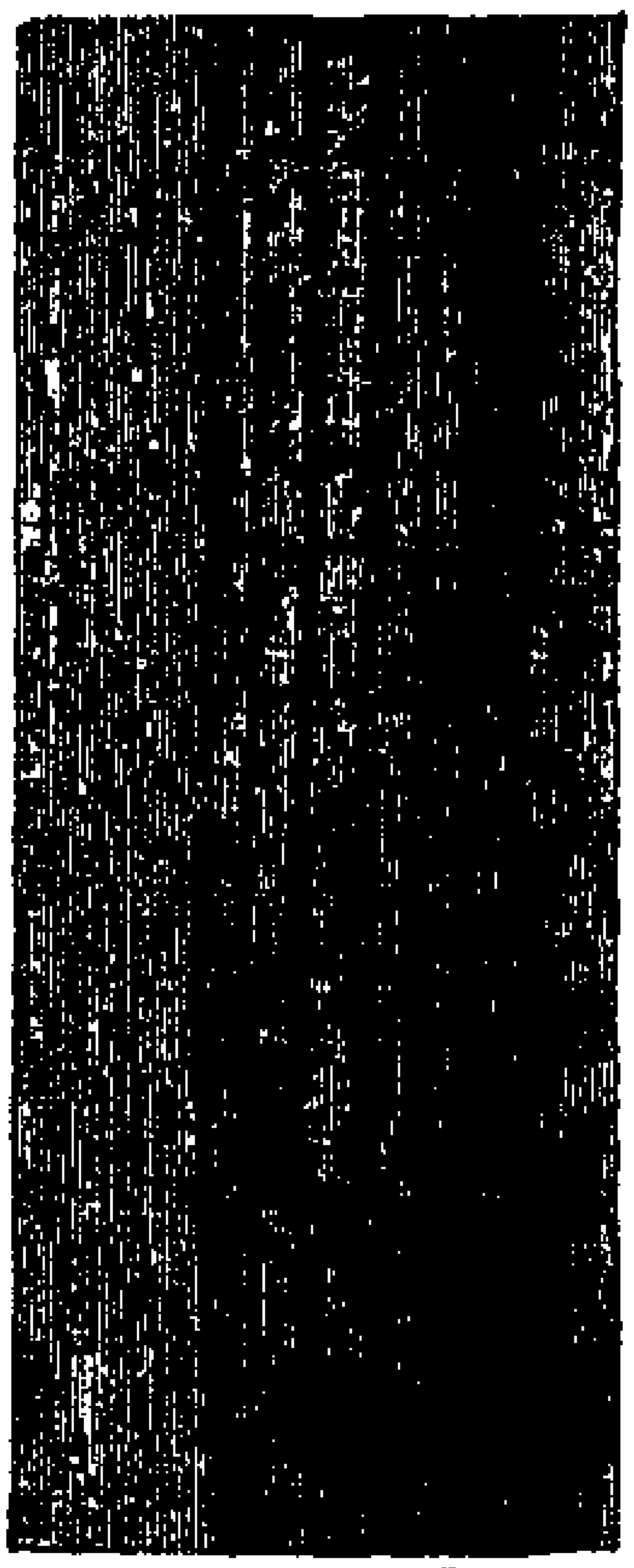


FIG. 144. Bad grain

has been gradually reduced towards the ends, should be even and straight. No knots or pins should be either in the back or belly, the wood should be dark in colour, and the less wood there is in a bow, and the *lighter* it is in the hand for its strength, the better. It must not, however, be supposed that bows as perfect as the one described are easily found; indeed, few self-yew bows are not deficient in some respect, though it may be trifling. Either, as mentioned before, the limbs are not quite straight, owing to the growth of the tree, or the wood

is light in colour and the grain is not close, or curls are present, or knots and pins are unpleasantly conspicuous.

All these faults detract from the value of a bow, and make it more or less unsightly, but do not necessarily render it radically bad. With respect to the position of the limbs giving it the Cupid form, this is not of much consequence, provided that the unbendable portion of the bow is sufficient. The colour of the wood is frequently light, and this again is not an insuperable objection to a bow; though, undoubtedly, the darker is the best, and generally most seasoned wood, for yew as long as it is left unpolished gets darker by age. The closeness of grain is of more consequence, and it will usually be found that bows of open grain are softer and have more wood in them than they should have for their strength. Curls are a great source of weakness, and when a curl appears which dips to appear again higher up the bow, the wood which is left between the two dips is nearly, if not quite, useless. The danger of knots and pins depends very much upon their position, and whether they have been properly 'lifted.' If this has been skilfully done, the danger is much lessened, but such places are very favourable for developing crysals, and require careful watching. A knot or pin, if not too large and duly lifted, will not matter much, provided it is on the side of the bow and not in the middle of the back or belly, or not on that portion of the bow which does the actual work—namely, between the unbendable part of the bow to within eight or nine inches of either end; but if it is more than this distance from the end, and not in the rigid portion of the bow, or should it be in the centre of the back or belly, it is dangerous. When a bow is strung the string should be exactly in the centre of the bow. It can be seen at once if this is the case by turning it string upwards, and looking along it; if the nocks are properly placed, and the limbs are true to each other, the string will appear to cut the belly of the bow into two equal halves. This has apparently long been known as a desideratum, as coins are found some 2,500 years old having on them an archer looking along his bowstring (fig. 138).

Much has been written as to the comparative merits of self and backed bows ; which is the better to adopt depends very much on the individual, his skill, manner of shooting, and last, but by no means least, on the depth of his pocket. The self-yew has all the best qualities which a bow should possess ; it is light in the hand, pleasant to shoot with, has a good cast, if properly handled is lasting, and it is not liable, as backed bows are, to be injured by wet ; but it has also some drawbacks. It is liable to crysal, requires that the archer should have thorough command over it, and it is expensive. Crysals are caused by the compression of the grain of the wood in the act of drawing the bow, and the sudden release of the string in loosing, which does not give the grain time to recover its

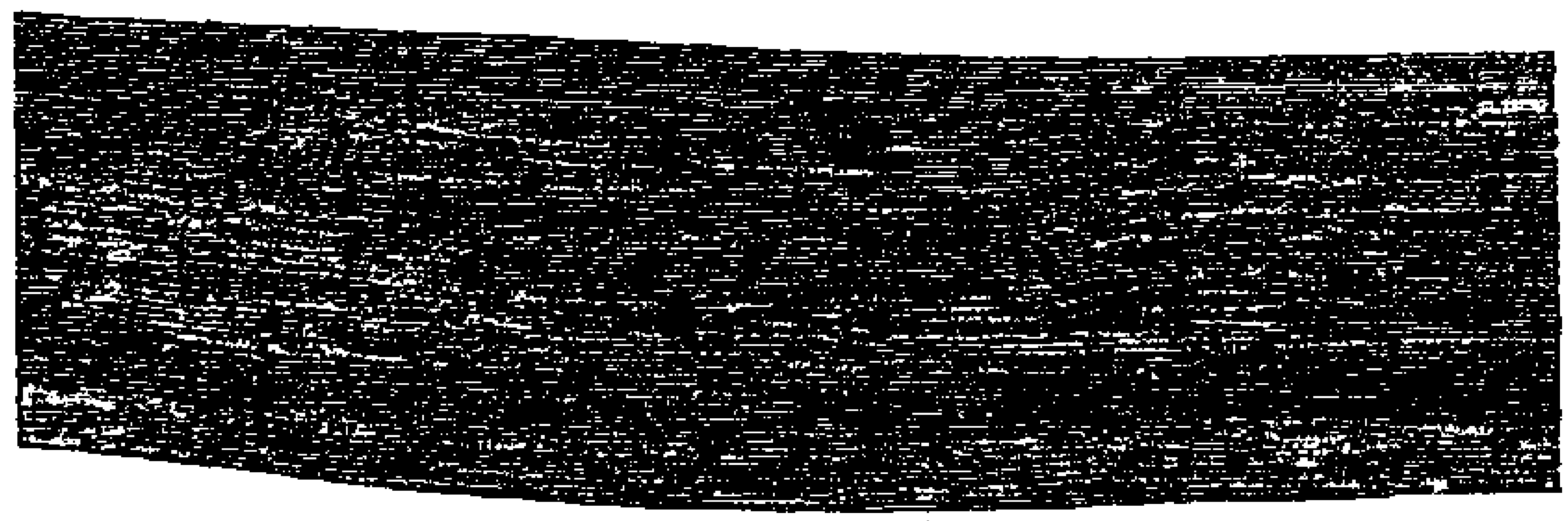


FIG. 145. Curl

original position. They cannot be avoided, and will appear in all bows, but generally in new ones in consequence of the wood not being sufficiently seasoned. In older bows they often come from the bow being shot in a different way from that to which it has been accustomed, such as a longer arrow being drawn, or a sharper loose being given to it. They first appear either at knots or pins, or in the middle or side of the belly, either singly or in shoals ; at first they are very small, looking more like a slight and nearly imperceptible scratch on the polish, and do not always increase in size, especially if they are on the side of the bow, but they should be carefully watched. If they are very numerous they are not so dangerous as when only one makes its unwelcome appearance ; in this

case it generally spreads till, unless the bow is sent into dock to have a piece let into the belly, it breaks it.

A self-yew bow has more of its power in the last two inches of its draw than a backed bow ; so that, unless the arrow is invariably drawn to the same place, it will fall short or go over, as the case may be ; for the same reason a forward loose also is far more fatal than with a backed bow, which pulls more evenly throughout. The point as to whether there is more difference in the pull of the last inch of a self-yew bow than in a backed bow has been doubted, but from actual experiments with new bows of exactly the same shape and length, it seems evident that there is a difference of about 1 lb., which would increase by use, as the self-bow would follow the string more than a backed bow. A good self-yew, free from pins and knots, costs from 7*l.* to 10*l.* or more, as much as 21*l.* having not unfrequently been given for a choice old Belgian specimen ; so that, unless the shooter is accurate in his pull, and not liable to vary it owing to ill-health, or other causes, and does not mind giving a good price, a backed bow will probably suit him best.

Formerly, backed bows were made of a bad shape, and often of wood which was more fitted for sticks and umbrella-handles than bows, but now their manufacture is better understood, and they are not open to the objections to which they were thirty or forty years ago.

The sap or white part (the back) of a yew bow is that which gives most of the spring and cast, the belly supplying, as it were, the buffer necessary to save the back from the recoil when the arrow leaves the bow. The difficulty of procuring a piece of yew with both back and belly free from blemishes led to the expedient being tried of joining an elastic and a more or less hard wood together, which resulted in the backed bow being made.[1] Backed bows have been and are being made of all

[1] Backed bows are stated by Mr. Roberts, in the *English Bowman*, to have been first made in England by the Kelsals of Manchester at the end of the sixteenth century ; there is no mention of them in *Toxophilus*, but in a will of 1569 a 'peaced bow' is bequeathed.

sorts of wood—yew, hickory, and elm being used for the backs, and washaba, snake, fustic, lance, yew, beef, ruby and degama for the belly. Many of these woods vary very much, one log being quite different from another ; and it may be taken as a general rule that the best combinations are yew-backed yew, yew fustic and hickory, yew and hickory, beef or ruby and hickory, and lance and hickory.

Of all backed bows, yew-backed yew bears off the palm. It runs self-yew very close ; indeed, in several points it is by many good and experienced archers considered better. The best parts of the yew, which are not used in making self-bows, are worked up into yew-backed-yew bows, and it is evident that over and over again in a wood so liable to knots and pins as yew, both backs and bellies can be procured separately from different staves of the very best material, when neither stave would furnish a limb fit for a first-class self-bow. Consequently it has most of the advantages of the self-yew, and is perhaps superior to it in respect of its not being necessary to observe the exact pull which is requisite to get the full power out of a self-yew ; but it is not quite so pleasant to shoot with, as no bow can come up to a good self for sweetness, softness, and steadiness in the hand when it is loosed. It is also, comparatively speaking, an expensive bow, and is not so durable as a self.

The three-piece combination of a hickory back, yew belly, and a piece of fustic between, produces a good casting and durable bow. Hickory is the best wood there is for a back (except yew in the case of yew-backed yew) ; it gives the required elasticity, and is not liable to 'slither,' as the lifting of the grain is termed. Fustic is sufficiently hard to do its work properly, and the yew belly does away with the tendency that fustic has to crysal. Yew and hickory, and beef or ruby and hickory, make a good bow with a sharp cast. Lance and hickory is the cheapest backed bow, and very good work can be got out of it for a time, but it follows the string, and the cast gets sluggish after a time.

All these backed bows labour under the disadvantage of being heavy in the hand, but if properly shaped, very good shooting can be done with them. Several of the best shots never use a self-bow, and probably the best backed bow for all-round purposes is the three-piece yew, fustic, and hickory bow, made quite straight and 'whip ended.' This bow will cast well, is soft in the hand, lasts longer, and keeps its cast better than most of the two-piece bows, while the price is moderate, and it will give more even results as to range than a self-bow, unless the latter is invariably drawn to the same place.

In advising on the choice of a bow many points have to be taken into consideration; if, as is usually the case, the advice is required for a beginner, the weight which can be *properly commanded* should be the first consideration. By this is not meant the weight which can be *drawn*; that is quite a different thing, as many men can draw a bow of 56 lbs. with the greatest ease who could not loose *properly* one of 46 lbs. The weight of a bow should be that which the shooter can thoroughly command during the operations of drawing, holding, and loosing, and as this last is the most delicate operation of the three, as well as the most difficult and important, so it is the power of loosing which should regulate the weight of the bow chosen. Beginners are constantly found increasing the weight of their bows, fondly imagining that by doing so they will get a lower flight for their arrows, and consequently lower point of aim; when, if they would do the reverse and take a weaker bow, the result would very often be more satisfactory. Lowness of flight is obtained by a good loose far more than by a heavy bow. What causes arrows to fly high is a dead sluggish loose or the usual fault of creeping, and these are increased by trying to shoot with too strong a bow. The number of promising shots that are spoilt, or get into hopeless tricks, by using too strong bows, is innumerable, and the evil does not end there; for should the archer see the error of his ways, and discard his strong bows, he will find that the difficulty of loosing properly

a weak bow is very much increased by his experience with the stronger one. Nor is there any necessity for using bows of more than say 50 lbs.; few of the good shots do so, even at 100 yards, and many use weaker bows at this distance with highly satisfactory results. The beginner had far better at first be satisfied with a bow of 46 lbs., and when he finds that he has thoroughly mastered, and can loose it properly, it will be time enough to try a heavier one.

From what has been previously said about yew and yew-backed-yew bows, it will be understood that both these bows require a certain amount of skill in their use, and are more or less liable to accidents; it follows, therefore, that they are better left alone till the archer has obtained a fair insight into the art of shooting. A self-lancewood bow is by no means a bad bow to commence with, though a lance and hickory is better, as the lance by itself goes down in weight very rapidly; but it is not expedient at first to buy a more expensive weapon than one of these two. Of course, until the beginner has had some sort of practice, the weight which he can properly manage must be to a certain extent problematical. It would be as well, then, to choose a bow of about 46 lbs., either lance or lance and hickory; as bows are generally marked two or three pounds less than their actual weight, the bow may be at first rather too strong, but it will soon go down. He should see that the bow is of a good shape—which has already been described—is free from knots or pins and incipient crysals (for all these are found in lance as well as in yew), that the grain is straight and even, and the lancewood a rich golden colour and not black, and, if it is a two-piece bow, that the hickory is straight in the grain. The bow should be strung, and looked at, string upwards, to see that it is true; it should then be reversed to see that the two limbs are true to each other, and that neither is cast. The next thing is to *see* it drawn, to ascertain that the limbs bend evenly and well. The bow should now be grasped by the handle, and the string pulled a few inches two or three times to see that it does not

kick or jar; finally it should be drawn up, with an arrow in it (for no bow should ever be drawn more than a few inches without) to see if the weight is likely to suit; if all this is satisfactory, he will probably secure a fairly good bow.

With respect to choosing a more expensive bow, the different points of a good bow have been given. That it will be possible to find a perfect one is not likely, but what has been said as to the various imperfections to which bows are subject should be sufficient to aid the beginner to make a choice, especially as by this time he will have acquired some experience of his own. If, however, it is proposed to buy a really expensive bow, it is just as well to secure the help of an expert, and the good-fellowship among archers is such that no difficulty will occur in obtaining this assistance.

All bows will lose both cast and strength if shot with many days running, and they will not readily recover if overshot, though all bows will not suffer to the same extent. A bow needs some rest, and to shoot more than two York Rounds running with the same one is injudicious. Even in one day a bow will sometimes go down one or two pounds, and some bows will lose as much as this in the first dozen arrows, hot weather especially affecting them, though it must not be understood that they will continuously get weaker and weaker. They will recover with rest, and it is therefore good economy to have at least two bows exactly alike, and of the same weight; the handles also should be the same, and care should be taken that they fit the hand. Various handles are in use—plush, mohair braid, leather, and the india-rubber covering of a tennis-bat handle, cut in two, all have their advocates. It will be found a good plan to have a pad on the handle to fit the palm of the hand when the bow is grasped; this can be readily put on by soaking a piece of sheet gutta-percha in warm water and putting it on the handle in the required place, and grasping the handle in the proper way; but care should be taken that the hand is wet, or the pad will stick to it, which will be found unpleasant. When the gutta-percha has

set, the bow should be shot with, and the pad gradually trimmed with a sharp knife to make it fit accurately. It is important that the handle should fit the hand, as unless this is the case it will not be possible to grasp the bow in the proper manner, as explained in Chapter XX. Should the bow be held in such a way that the grasp is below the true centre of the bow, the result is that the lower half of the bow is called upon to do more than its due amount of work, and is pulled out of shape; the converse is also the case. It is a frequent thing to find bows thus damaged, almost always in the lower limb, as it is a common fault to grasp the bow in such a way that the resistance, when the bow is drawn, comes on the lower part of the hand instead of on the ball of the thumb.

All bows require to be treated with care—backed bows, perhaps, even more than selfs, as they are more liable to injury from damp. After shooting on a damp day both the bow and the string should be thoroughly rubbed dry with a soft rag, especially at the ends and handle of the bow where damp is likely to settle. The string should be rubbed with bees'-wax, and the bow should not be placed in a case, or if it is necessary to do so to take it home, it should be taken out and again wiped as soon as possible. The end of the bow should never be placed on the damp grass; if it is a self it may loosen the horn, and if it is backed the glue of the lower limb may come undone. Nine backed bows out of ten which become unstuck do so in the lower limb, and from this cause. With all backed bows it is an excellent plan to have one inch of the bow nearest to each horn lapped, as if the bow should become unfastened this will probably save the bow from breaking. Damp is also liable to cause 'slithers,' or the rising of a splinter on the back. Should one be seen, it ought at once to be glued down and lapped, the best material for the purpose being narrow silk ribbon, also glued, covered over with thread, and when dry varnished; the bow will then be as good as it was before. Bows, especially self-yews, cannot be too carefully handled and protected from receiving

dents and scratches, they are unsightly even if they do not injure the bow.

It seems rather selfish to say so, but it is unwise to *lend* a bow, or, at any rate, a favourite self-yew. No two people pull and loose exactly in the same way, and they probably do not pull the arrow to precisely the same spot. A yew bow gets accustomed to being used in the same manner, any difference in draw or loose is at once felt by it ; thus it will easily be understood that the result of too much good nature may be a ruined bow. Never draw a bow fully up without an arrow in it : it is impossible to tell *how* much it is drawn, and many a bow has been broken in this way. Nor should a bow ever be loosed more than a few inches, unless an arrow is on the string.

Formerly it was customary to unstring a bow after every three arrows in order to give it rest ; a considerable diversity of opinion existed for many years as to whether the bow gained anything by being perpetually strung and unstrung. Possibly it lost more than it gained by the process, but be that as it may, it is now the custom to keep the bow strung as long as it is in use, and no harm seems to come of it. Of course a bow should never be left strung an unnecessarily long time, or between the distances when more than one is shot, though it is usual to string it some five or ten minutes before beginning to shoot. One thing is especially to be avoided with respect to stringing and unstringing bows, and that is attempting to bend back the limbs of one which follow the string. Nothing is more calculated to injure it.

With every care bows will break, neglected crysals and slithers, broken strings, knots and pins, all are causes of fracture, and sometimes a bow goes without any apparent reason. Fortunately, they can also be mended ; a new back or belly can be put in, or a bow may be repaired by putting in only part of a belly. A new limb can be fitted to an old one, or, better still, two old limbs can be joined together, as one will not then pull the other out of shape. Sometimes these

repairs make the bow as good as ever, and on other occasions they are not successful; but if an archer is unfortunate enough to break or damage a bow, he should at once take it to a bowyer to see if it can be made serviceable—one thing is certain, the sooner a crysal or slither is taken in hand the better.

Bows can be strengthened or weakened if it is necessary. The former is generally done by shortening them, and provided the bow was originally long enough to allow of this being done, it answers very well, but if this is not the case, it is attended with danger, unless a short arrow is to be used. Another way of strengthening a bow is to put on a new back or belly. Weakening is done by scraping away part of the wood, and is not dangerous, but of course the cast of the bow may be altered. Mr. C. H. Everett has hit on an ingenious method of strengthening a bow by having horns with two nocks, so that by using a shorter string the bow is made stronger without shortening the wood.

It is not always the best-looking bow which will shoot best, and examples may be found of bows which look as if they *could* not be worth anything having a remarkably good cast, while on the other hand, some bows which look perfect have none at all; but what has been said, as a rule, will lead to the choice of the best bow.

Throughout this chapter, gentlemen's bows only have been mentioned. This is not from any want of courtesy or respect to the ladies, but because the greater weight of men's bows—and, consequently, increased difficulty of procuring good material—naturally requires the first consideration. Everything that has been said as to gentlemen's bows equally applies to ladies, the length and weight only excepted; the weight of ladies' bows is from 24 lbs. to 32 lbs., and their length should be 5 ft. 6 in. What has been remarked as to beginning with a weak bow also holds good, and 24 lbs. is quite heavy enough to commence with.

CHAPTER XVIII

THE ARROW

By Colonel Walrond

Though mentioned after the bow, the perfection of the arrow is of more consequence to secure accurate shooting than that of the bow. It is quite possible to shoot, and very fairly well too, with a bow which has an inferior cast, but to make a good score with crooked or weak arrows, except by accident, is impossible. Crooked arrows do, of course, occasionally hit, and one hears sometimes a self-satisfied archer rather pride himself on shooting with arrows that will not 'spin,' saying it makes no difference; perhaps not to him, but one cannot help thinking of the anecdote of the two archers who were shooting together (with indifferent success), when one said to the other, 'I cannot understand how it is I do not get more hits than I do, by accident.' 'You do not know how many you *do* get by accident,' was the pertinent reply of his chum.

Arrows are made of red deal, and are called 'self' or 'footed' according as to whether they are footed or not with hard wood at the pile end. No one now uses self-arrows, and it is unnecessary to say anything about them, footed arrows being universally used for target shooting. They are stronger, and therefore stand the wear and tear of hitting the target and ground better, and, owing to their greater density at the point, fly better than selfs.

The grain of the wood out of which arrows are made should be straight and clean: the wood itself must be well seasoned:

it is cut into half-inch square staves of the required length, and left for about three years. The wood for the footing, usually beef or washaba, and sometimes lance, is cut into half-inch square pieces, $7\frac{1}{2}$ inches long, and a cut is sawn through the middle of each piece to within $2\frac{1}{2}$ inches of the end; it is then rounded and planed to a point on each side at the end where the cut begins. The stave is rounded, the point cut to a wedge shape, glued and pushed into the saw cut in the 'footing,' thus forcing each side of the point of the foot open, so that it holds on by its own elasticity as well as by the glue. The horn for the nock is fastened on differently, as a V-shaped cut is made in the end of the stave, and the horn, which is wedge-shaped, is glued into it, the nock being subsequently cut by means of a circular saw. The arrow is then further rounded and shaped, and left till it is required, when it is again reduced and brought to the desired shape and weight, and is ready for feathering. Feathering is a delicate operation, as the rib of the feather has to be pared with a sharp knife to the necessary angle to make it set properly on the arrow, and the feather itself has to be cut by means of a wooden shape and glued on. Finally the arrow is painted, varnished, the weight marked on it, and it is ready for use.

An arrow should be perfectly straight, and stiff enough to withstand the pressure which there is upon it, when being shot, as long as it remains on the string. If an arrow is at all weak at the feather end, it will 'flirt' or jump on leaving the string and fly off to the left. To ascertain if an arrow is straight, turn the left-hand palm upwards, place the nails of the thumb and middle finger together, and rest the arrow on them at about its balancing point; hold the nock of the arrow with the thumb and middle finger of the right hand, and give it a sharp twist, so as to make it spin. If the arrow is straight, it will spin smoothly and without jumping on the nails. From fig. 139, page 286, this method of testing an arrow seems to have been known at a very early period. To test its stiffness, hold the arrow by the nock with the left hand, place the point on a

table, and gently press the forefinger of the right hand down the sides of the arrow from the feathers towards the point. If the arrow is at all weak and bends too much, or bends differently on different sides, it should be rejected.

The *nock* should be cut clean, the edges smooth, the bottom being slightly convex, and the sides of the horn should not be too thin. The *feathers* are an important portion of the arrow; formerly the 'grey goose wing' is said to have supplied the best, but now turkey and peacock wing feathers are used, the latter standing much the best. White feathers should be avoided, as they are weak and soon get dirty; but if it is desired to have them, care should be taken that they are Turkey and *not* goose. The only use of a white cock feather is to mark how the arrow should be placed on the string, and this can just as readily be done by the shooter's name being placed above the cock feather. The rib should not be cut too close, or it will weaken the feather. It is essential that the feathers should curve the same way, so as to impart a slight rotary motion to the arrow as it leaves the bow, and therefore, as the feathers curve differently on each wing, all three feathers should be from the same one. The feathers should be from one to two inches long, about half an inch deep, and placed as far back as is compatible with leaving room for the fingers of the right hand. Formerly they were made a great deal longer and larger than they now are; the reduction in their size was owing to Mr. H. Elliot accidentally breaking the front portion of a feather. He pulled off the others to make the three even, and finding the arrow flew better, adopted short feathers, and their use became general. There are two shapes in use at present, each of which has its votaries.

In practice there is not much difference between them; fig. 146 gives the best steering power, but as fig. 147 can from its shape be placed somewhat further back, without interfering with the fingers, this advantage is to a great extent neutralised. For short arrows a reduced form of both is sometimes used. It is difficult to say which is the better shape, but on the whole,

perhaps, fig. 146 has most advantages. The '*footing*' should be solid for about an inch in front of the pile, and should reach up to the end of it, or else on the arrow striking a hard substance the pile will be driven back and splinter the footing at the shoulder which is cut to receive the pile. The *pile* should be parallel-sided and square-shouldered; any pile that tapers from its commencement will, if the arrow be at all over-drawn, cause it to [illegible] to the left, and also from the pile

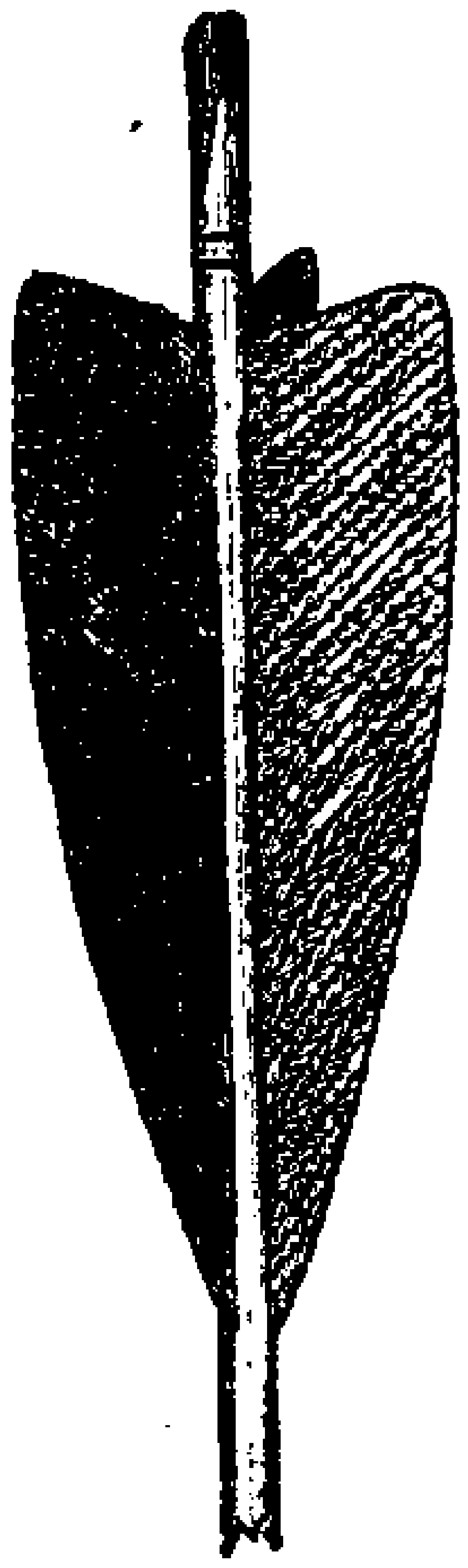


FIG. 146. Ordinary feather

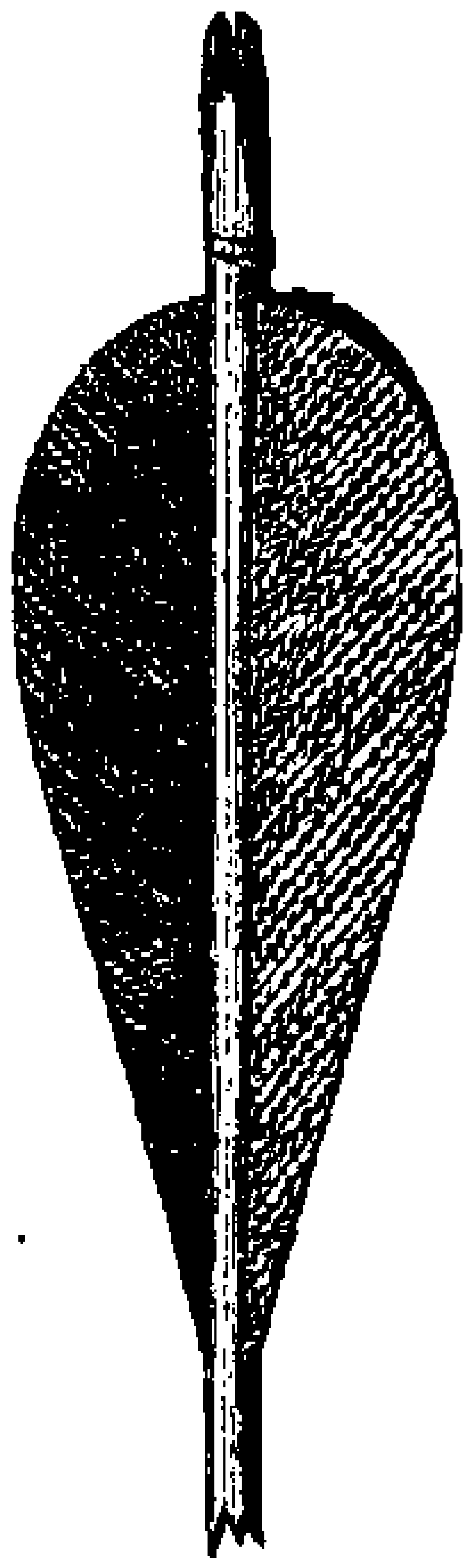


FIG. 147. Parabolic or balloon feather

coming lower on the hand will make a difference in the elevation, as the end of the pile acts as a foresight in taking aim.

The ordinary length of gentlemen's arrows is 28 inches, and of ladies' 25 inches, but longer and shorter ones are also used; for, as it is advisable that the arrow should always be drawn to the head to insure accuracy, it follows that its length must depend to some extent on that of the shooter's arm, and a short arrow has the advantage of being as stiff as a longer one, and at the same time weighing less.

The weight of arrows, which is marked close to the nock, is reckoned in terms of their weight against new silver; i.e. if an arrow weighs five shillings it is marked '5,' if four and ninepence, '4. 9.'—and so on. The weight marked on arrows is not always correct, and it is as well on getting a new lot to weigh them oneself. This is easily done by the machine (fig. 148), of which a cut is given, or with an ordinary letter-weigher, the arrow being kept steady with a piece of corrugated packing-paper, another piece of the same weight being put in the opposite scale. If there is any difference between them, they should be sorted into sets, so as to make sure of using only those that are exactly alike at the same time: the difference will not be sufficient to matter, provided the sets used are alike in themselves. The weight of the arrow used must depend on its length and the power of the bow, as a 28-inch arrow weighing 4. 3. could be used, and fly perfectly out of a 46-lb. bow, but would probably 'flirt' if used with one of 50 lbs. Taking the average weight of bow at 50 lbs., a 28-inch arrow should not be less than 4. 9.; a 27-inch arrow would be stiff enough if it weighed 4. 6. With a stronger bow heavier, and with a weaker lighter, arrows should be used. It must not be forgotten that there is a considerable strain on arrows, not only when they leave the bow, but also when they hit the target or the ground, and that

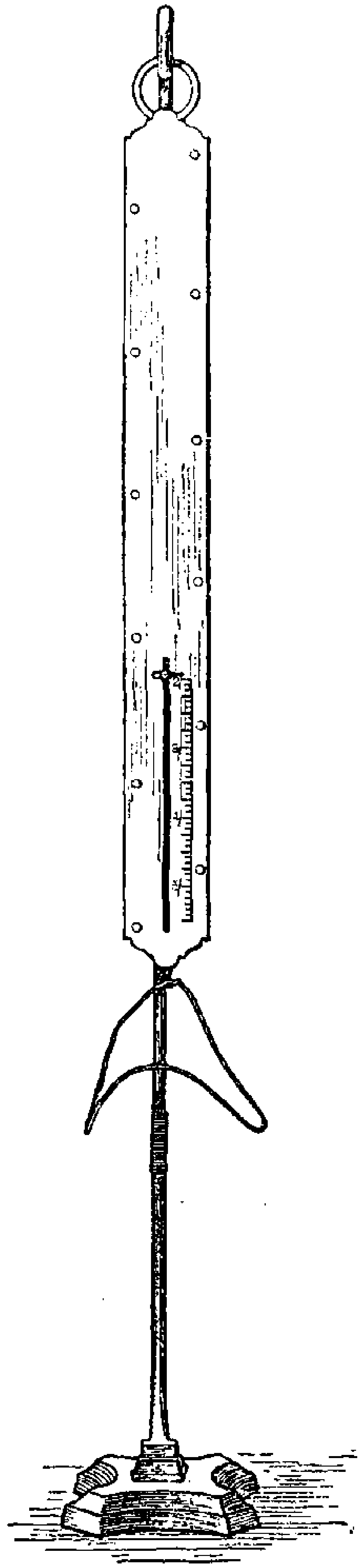


FIG. 148

the heavier and therefore stronger arrows are the better they will last.

The centre of gravity or balancing point of an arrow also exercises considerable influence on its flight, and it is advisable to try each arrow by balancing it on the forefinger of the left hand, and, as was recommended with respect to the weight, use those together which are nearest alike. As there are sure to be some slight variations both in the weight and balance, it is as well to have not fewer than two dozen arrows made at the same time, as by doing so it will be easier to get a fair number exactly alike. It is good economy also, as arrows that have been made some time last much longer than new ones.

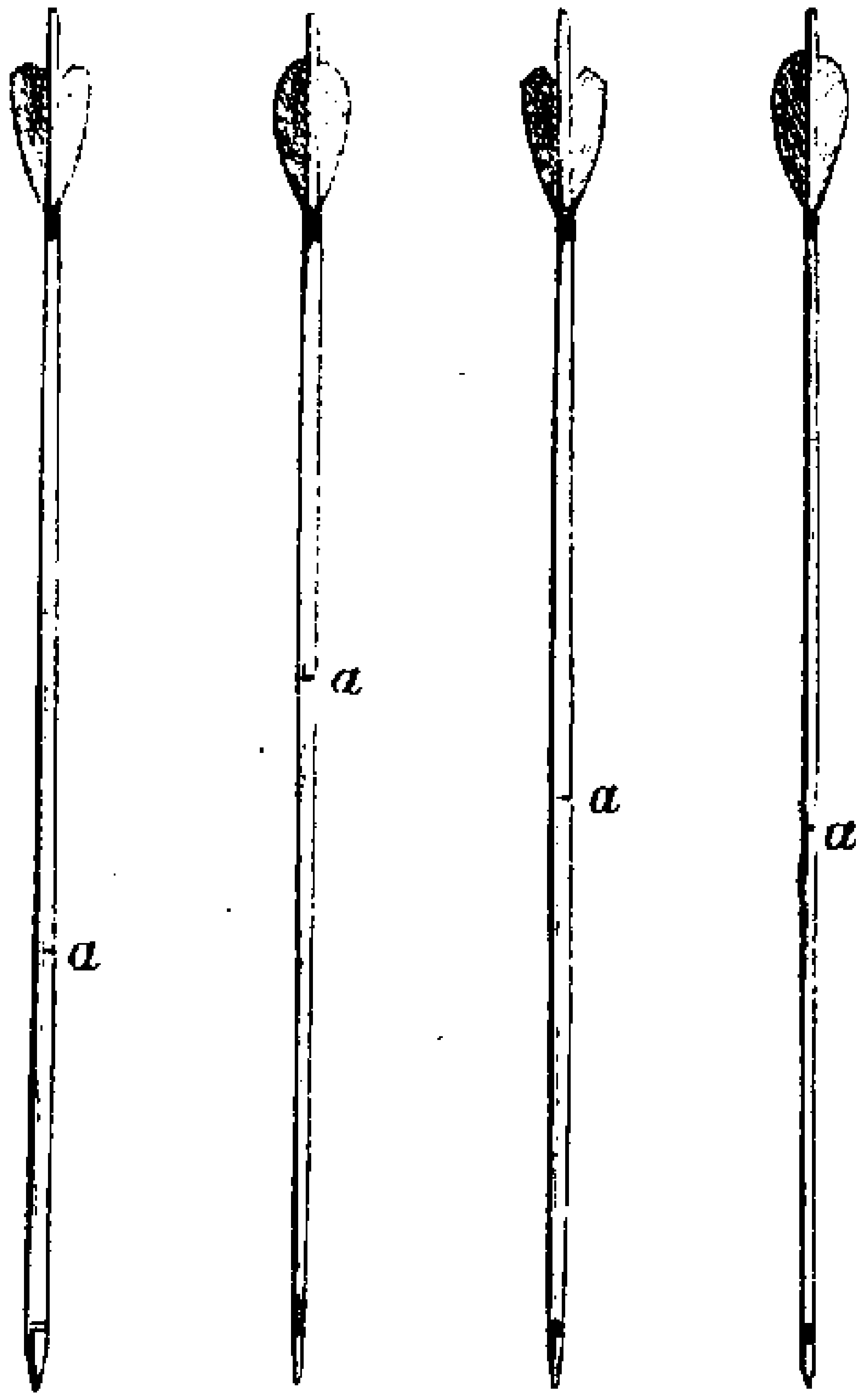


FIG. 149 FIG. 150 FIG. 151 FIG. 152
a, balancing point

As to the shape of the arrow, it has already been said that it is necessary that it should be stiff, so as to prevent its flirting or bending. Arrows are made of four patterns: the 'bobtail' (fig. 149), which gradually gets smaller from the point to the nock; the 'chested' (fig. 150), which is largest at from 12 to 18 inches from the nock; the 'barrelled' (fig. 151), which is gradually reduced from the centre to each end, and the 'parallel' (fig. 152), which is, or should be, the same size throughout its length. The parallel arrow flies more steadily than the others, as it travels more smoothly when shot, along the side of the bow; it is from its shape strong, and is not liable to get crooked on striking the target or the ground. This was the shape recommended by the late Mr. Ford, and it is the one generally

used. Major Fisher, however, used the barrelled arrow, and a few years ago Mr. Perry Keene, on trying arrows of this shape, was so pleased with them that he advised their use, in an article in the 'Archer's Register.' A great many archers adopted them, and though some have since gone back to the parallel, many of the best shots still use them.

The advantages claimed for the barrelled arrow are, that its flight is lower, owing to its point offering less resistance to the air, that the pile being smaller is easier to aim with, and that, weight for weight, it is stiffer. This is correct as regards the two first points, but reduced as it is towards the feathers, it is weaker than a parallel arrow. The objections to it are, that owing to its shape it cannot travel smoothly against the bow, and when shot, the arrow at its thickest part can be distinctly felt to rise on the hand, with the result that the flight is not quite steady. The pile also not having parallel sides is more likely to cause the arrow to go to the left if it is overdrawn. The bobtailed arrow is reduced at the point where it ought to be strongest, it jumps or flirts on leaving the bow, and is therefore bad. The chested arrow is generally used for flight shooting, when a longer and lighter arrow is required than for target practice, but it has a tendency to go to the left.

It will be instructive here to note the flight of unfeathered arrows, which will show which shape throws least work on the feathers, in order to bring the arrow back to its equilibrium after it has left the bow. A bobtailed arrow will jump off the bow to the left, recover itself, and invariably go to the right of the target. A chested arrow jumps much more to the left, partially recovers, and goes to the left of the target. A parallel arrow does not jump like the others and goes (at sixty yards) straight enough to hit the target. A barrelled arrow, like the parallel, does not jump on leaving the bow, but flies straight for about thirty yards, and then goes to the right of the target.

The arrows used to test these points were all previously shot with their feathers on, and they all then appeared to fly perfectly straight, so that it seems as if an arrow of either shape will fly

well enough to hit the target if it is sufficiently stiff; but, of course, the one which leaves the bow most smoothly and deviates least from the straight line is the best, and in these respects the parallel is easily first, the barrelled coming next. It does not interfere with the flight of the parallel arrow if it is slightly reduced in size from the feathers to the nock, but the place where there is the greatest strain on the arrow is where it presses against the bow on its leaving the string—namely, at from seven to five inches from the nock—and it is absolutely necessary that this part should not be in any way weakened. It is advisable when buying parallel arrows to see that they really are so, as many arrows usually called parallel are so reduced towards the nock as to be really bobtailed.

There is one point in the flight of an arrow that requires explanation, and it is this. How comes it that an arrow which is placed on the *side* of the bow goes straight to the mark? If a parallel arrow be placed on the string, pulled up to the head, and slowly let back, it will be seen that the point must get more and more to the left of the target, which is caused by the arrow being on the left side of the bow while the string and the centre of the bow lie in one vertical plane, the variation being greater if the arrow is chested and less if it is bobtailed. If, however, the arrow is pulled up to the head, it will, if properly aimed, fly straight to the target. The explanation seems to be that, the string being in the nock of the arrow at the moment of release from the fingers, and remaining there till the arrow leaves it, and the string and the centre of the bow lying in the same vertical plane, the string does not propel the arrow on a line which would pass through its point, but on a line direct to the centre of the bow, A B (fig. 153). This line of action of the propelling force passes on one side of the arrow, and the force acts at the *side* of the nock, and not at its centre, imparting to the arrow at once a forward motion and a horizontal rotation, which latter deflects the point of the arrow still further towards the left, i.e. away from the object aimed at. (That this is so is shown by the fact that, if the string is

not well home in the nock, the side of the nock will be split.) Nevertheless, this untoward deflection is corrected and annulled before the arrow is completely discharged ; for, on the string reaching its rest, the arrow leaves it, and in doing so, owing to the force communicated to the arrow being a side one, and not direct throughout its length, the feather end of the arrow pushes against the side of the bow, and rebounds from it, which turns the point to the right and brings it into the true line of flight, in which it is kept by the feathers, which the

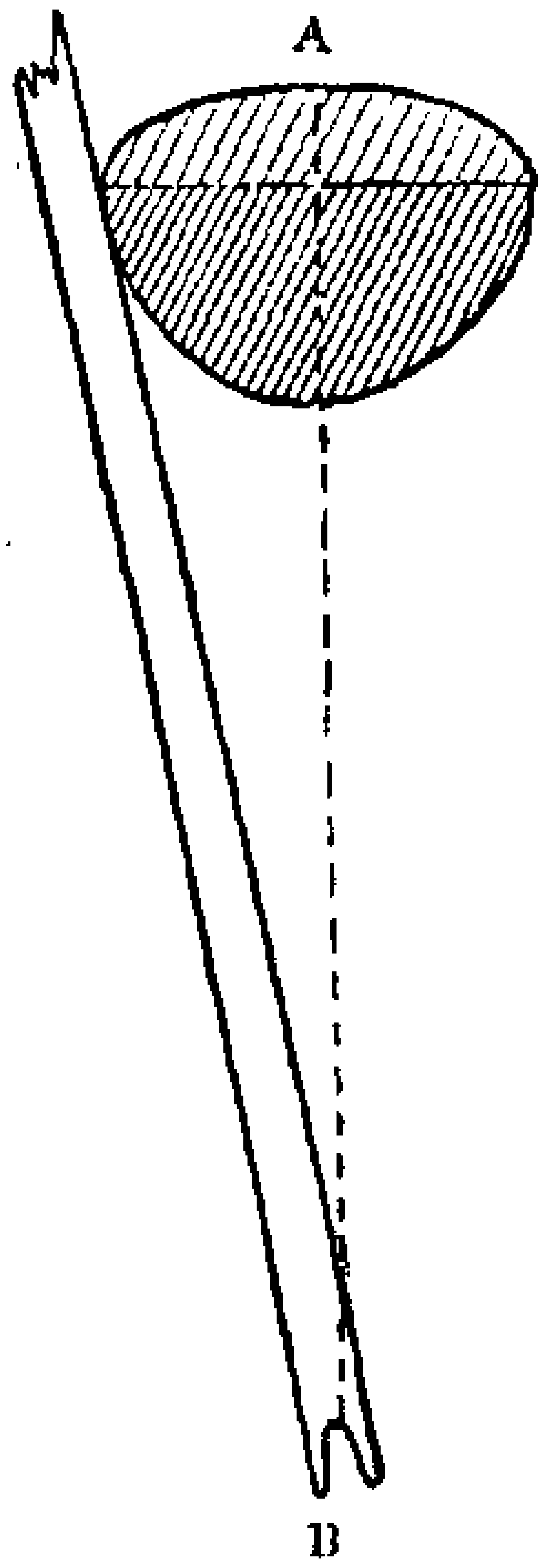


FIG. 153

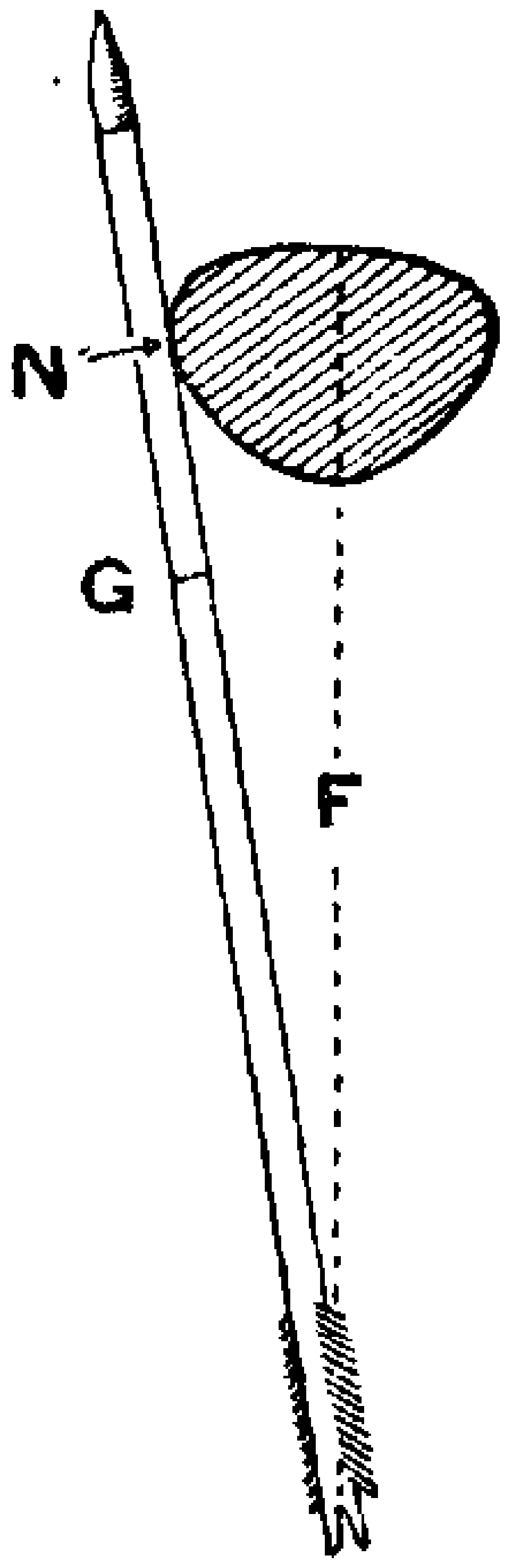


FIG. 154

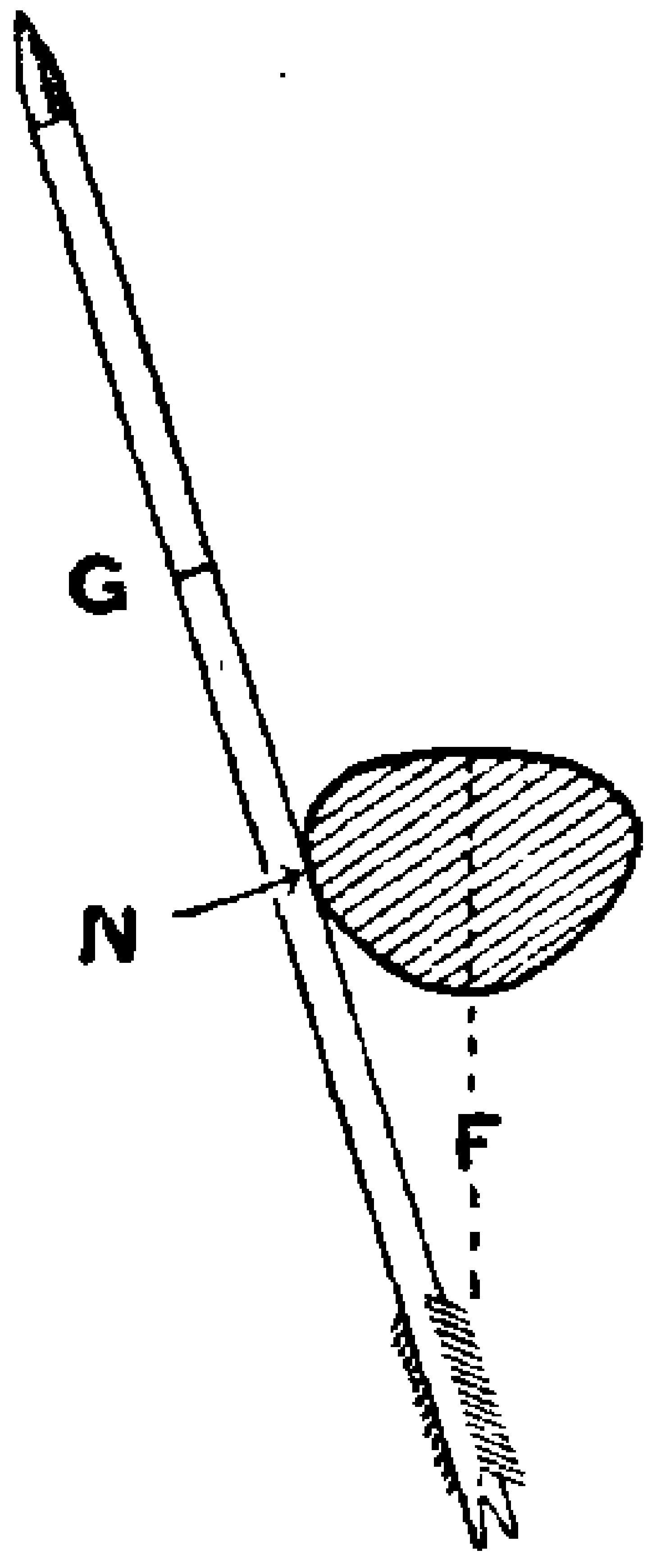


FIG. 155

impact on the bow have caused to rotate to the right or left, according as they were taken from the right or left wing, and thus imparting to the arrow a spiral motion coincident with its line of flight.

There is also another force which acts on the arrow while it is in the string, and this is the pressure it receives from the bow while it is passing along its side. This force varies according as the centre of gravity of the arrow is inside or outside the bow.

Taking G as the centre of gravity of the arrow, N as the pressure of the bow against the arrow, and F as the propelling force, and taking the figure to represent the arrow as fully drawn, it will be seen that this pressure, which is continuous, at first acts near the point of the arrow, and as long as G is inside the bow, it assists F to deflect the point of the arrow still further from the point aimed at, as N and F together produce a counter clockwise movement round G, and therefore a rotation of the arrow towards the left (fig. 154). As soon, however, as G has got outside the point of contact with the bow, N produces a clockwise movement about G, and therefore a rotation towards the right. This *régime* lasts, of course, longer than the former, as G, owing to the greater density of the footing, is nearer to the pile than to the feathered end of the arrow.

It will be noticed that the flight of the unfeathered arrows was precisely what one would expect to be the case as resulting from a propulsion applied to the arrow, not directly throughout its length, but sideways, and modified by the shape of the various arrows.

The explanation of this point given by the late Mr. Ford, and endorsed by Mr. Butt,[1] who both enter at length into the subject, is as follows, and seems to tally with the above, except that it is an error to say that there is a 'blow,' as the pressure is a continuous force which produces contrary rotational actions :—

It must be observed that the nock of the arrow being constrained to move as it does move, causes, in the last case, a blow of the arrow upon the bow (owing to its slanting position on the bow, and its simultaneous rapidity of passage), and, therefore, a blow of the bow upon the arrow. This makes the bow have quite a different effect upon the deviation from what it had in the first case, when the arrow was merely moved slowly and gradually along it, the obstacle presented by the half breadth of the bow then causing a deviation *wholly* to the left. The *blow*, however, now

[1] *Ford on Archery*, edited by W. Butt.

considered, has a tendency to cause deviation to the left only during the first half of the arrow's passage along the bow, whilst, during the second half it causes a deviation to the right ; or, more correctly speaking, the blow of the bow upon the arrow has a tendency to cause a deviation to the left, *so long as the centre of gravity of the arrow is within the bow*, and *vice versâ*. So that, if this were the only force upon the arrow, the centre of gravity should lie midway in that part of the arrow which is in contact with the bow during the recoil.

The blow of the bow during the latter part of the arrow's passage causing deviation of the point towards the right, is, however, counteracted to some extent, if not altogether, by the action of the string which holds the arrow.

Mr. Butt adds that the fingers in loosing impart a rotary motion to the string, which acts on the arrow. The fingers, no doubt, impart a slight *push* to the string, which keeps the arrow against the side of the bow, and which necessitates in the thumb release the arrow being placed on the right side of the bow, but there can be no *spin* communicated by the fingers to the string when it is tightly stretched and held by the two ends of the bow ; and if there were, how could it communicate a rotary motion to the arrow, and round what axis could it do so? If the lapping on the string is too tight, the nocking point becomes flat ; and if this flat portion is not in the true line to the side of the bow, it will be necessary to turn or twist the string slightly to get the arrow in its proper place. If this is done it will be found that the arrow will go to the right or left as the string is turned or twisted, so that if any such motion was communicated to the string, the arrow would not fly straight.

Another proof that there is no rotary motion communicated to the string at the moment of loosing is the fact that the arrows shot by the late Dr. Gruggen were remarkable for their low and steady flight ; and as he used a steel mechanical loose by which the string was held on each side (by a pair of tweezers, as it were), until released by the trigger no rotary motion could possibly take place. If, therefore, such a motion took place

with the ordinary loose, and was necessary to insure a steady flight in the arrow, his arrows could not have flown properly.

It is a good thing to make a nick on each side of the pile of new arrows, with an instrument like a leather-punch, but with a point substituted for the punch part, as this will very often prevent the pile being driven back on the footing when the arrow hits the leg of the target. After shooting on a damp day the arrows should be carefully wiped before they are put away, and if the feathers have got wet they should be well shaken, if possible, before a fire, which will to a great extent restore them. Before using arrows they should be wiped over with a greased rag (deer's fat or oil being the best lubricant), which prevents the paint of the target sticking to them. Should any paint be found on them, it should be removed with turpentine or the back of a knife, as sand-papering is liable to injure them.

There is a certain amount of temptation to shoot with lighter arrows at 100 yards than at the shorter distances, so as to get a lower point of aim, to which some archers give way. Some also have shot with heavier arrows at one end than the other, so as to try to neutralise the effect of an up-and-down wind. The difference of elevation gained by changing the weight of the arrows is hardly sufficient to counterbalance the inconvenience of having to take about with one double the number of arrows, and the danger of using on some critical occasion the wrong or a mixed lot of arrows. It is better, therefore, to have only one weight of arrow, and to stick to it.

CHAPTER XIX

THE STRING, BRACER, AND OTHER IMPLEMENTS

By Colonel Walrond

THE STRING

The string is made of hemp treated in a particular way with some preparation of glue, the composition of which was a secret possessed only by a maker named Mules, who lived in Belgium, in whose family it had been for generations. He died without revealing the secret; consequently it was lost, and for some years no really good strings have been procurable, new ones frequently breaking without any apparent cause. Mr. Izzard, however, believes that he has at last succeeded in solving the problem of how a good string should be made, and it is devoutly to be hoped that he is right.

The string should be three-stranded, round, smooth, and of even size throughout, gradually thickening towards the ends so as to be strong enough for the eye and loop. The thickness should be regulated by the strength of the bow; a thin string undoubtedly gives a better cast, but it is not advisable to use too thin a string with a strong bow, as it might break, in which case the bow would probably break also. A string breaking at either horn is tolerably certain to break or crysal the bow (which may also happen if it goes at the nocking-point, though it is not so probable). It cannot therefore be too strongly impressed on archers that they should always carefully examine their strings before beginning to shoot, and at once replace one that shows any sign of weakness.

Every string has an eye spliced on it at one end which is intended to go over the upper horn of the bow, and a loop has to be made for the lower horn at such a distance from the other end, by means of a 'timber hitch,' that when the bow is strung, there is for a gentleman's at least six, and for a lady's five, inches between the inside of the bow and the string at the nocking-point. In order to put on a new string, it should be unrolled, the eye-splice pushed over the top of the bow and drawn sufficiently far down the bow to allow of the loop being made and placed over the lower horn, care being taken that the string is not overtwisted, and that there are no kinks in it. The loop (fig. 157) is made by giving the end a turn round the string at the necessary distance, and twisting the end of the string three timesround the looped portion. This is the ordinary way of putting on a string, and it has the advantage of being easily adjustable, but the neatest way is to make a second eye-splice, and so have an eye at each end.

Fig. 157

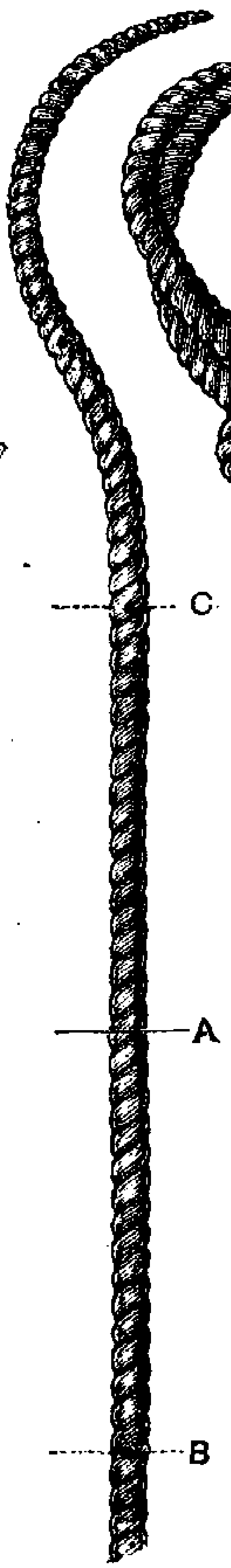


Fig. 156[1]

To make this second eye, it is necessary to make an ink mark at the point A (fig. 157), where the loop of the timber hitch comes against the centre of the horn, and to unstring the bow. Untie the loop, and at one inch and a quarter on each side of the mark, B and C, fig. 156 (or one inch for a lady's string), tie

[1] Figs. 156, 157, 163, 165, 168, are from *Ford on Archery*, by W. Butt.

a piece of waxed thread tight round the string, and cut off the end of the string two inches and a half from C.

Unlay the end of the string up to C, separate and straighten the three strands, and bend the string down, placing the middle strand on the top of the string at B (fig. 158).

The middle strand is now forced under the strand at B (as in fig. 159), with a stiletto, or small marlinspike.

The left-hand strand is now forced from right to left over one strand and under the next on the left, as in fig. 160.

Now turn the string round to the left, so as to bring the remaining, or right-hand, strand on the top of all, as in fig. 161.

The right-hand strand is then forced from right to left under the strand of the string immediately on the right of the one under which the first or middle strand was placed, as in fig. 162. If it is desired to taper the ends so as to make the splice neat, the under part of the yarn of each strand can now be cut off and the ends waxed.

To complete the splice each strand is taken over one strand of the string, and under the next one, it being immaterial which is used first.[1]

The eye-splice can also be made by putting the middle strand of the unlaid end of the string three times round the strand under which it is placed in the above method, and treating each strand in the same manner. This splice does not look so neat, but is as strong as the former one.

A string with two eyes cannot be lengthened without undoing the splice; it can however be shortened by twisting it once or twice in the same direction as it is laid, but it is not safe to do this if the string is new and hard, and it is not at any time a good plan, as it may break the string.

It is necessary that the string should be lapped or served with some material for about two inches above and five inches below the nocking-point, in order to protect and prevent its fraying should it hit the arm, and also to get a better loose. All sorts of things have been used for this purpose, but the

[1] *Seamanship*. Captain Sir G. Nares.

best materials are thin strips of whalebone, carpet thread, and silk. Whalebone gives a very good loose, but is somewhat difficult to put on the string, as it must be securely wrapped at both ends with waxed thread to keep it in its place. The

FIG. 158

FIG. 159

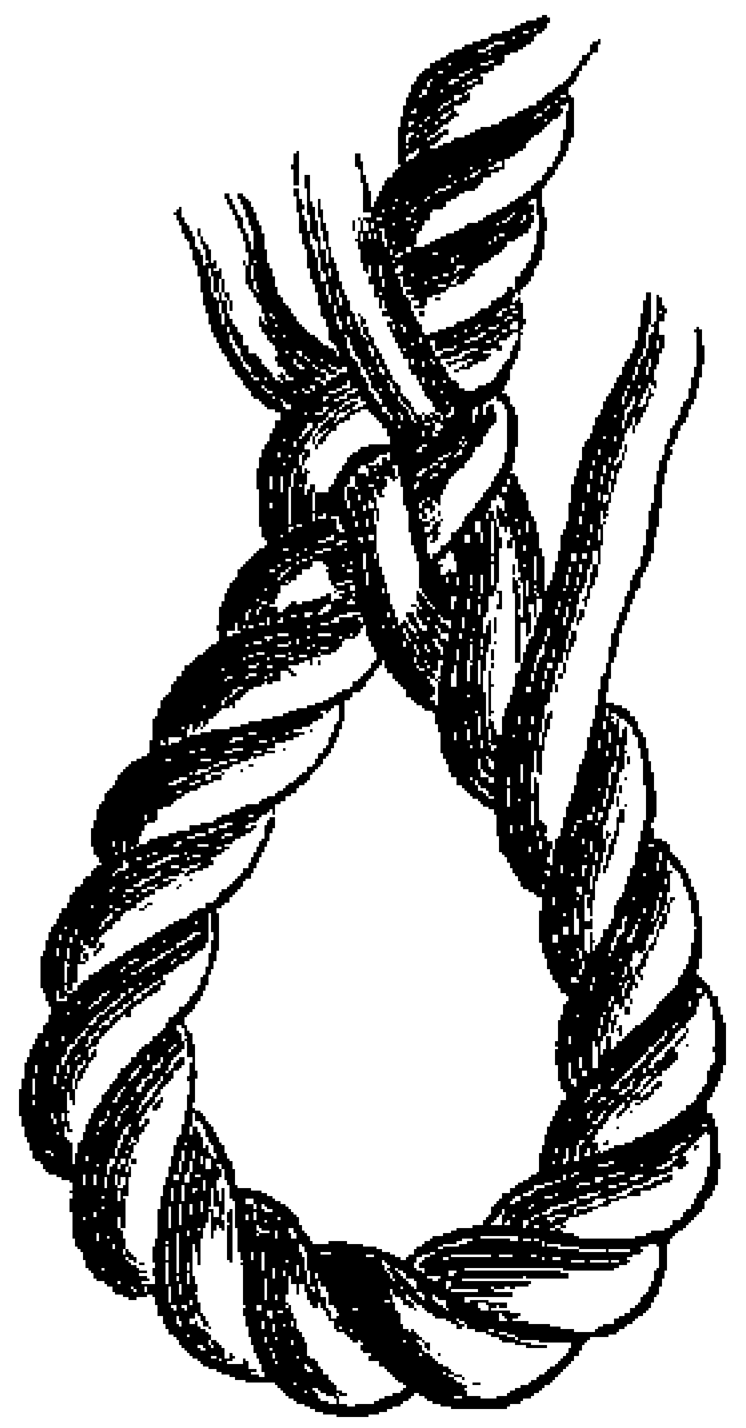


FIG. 160

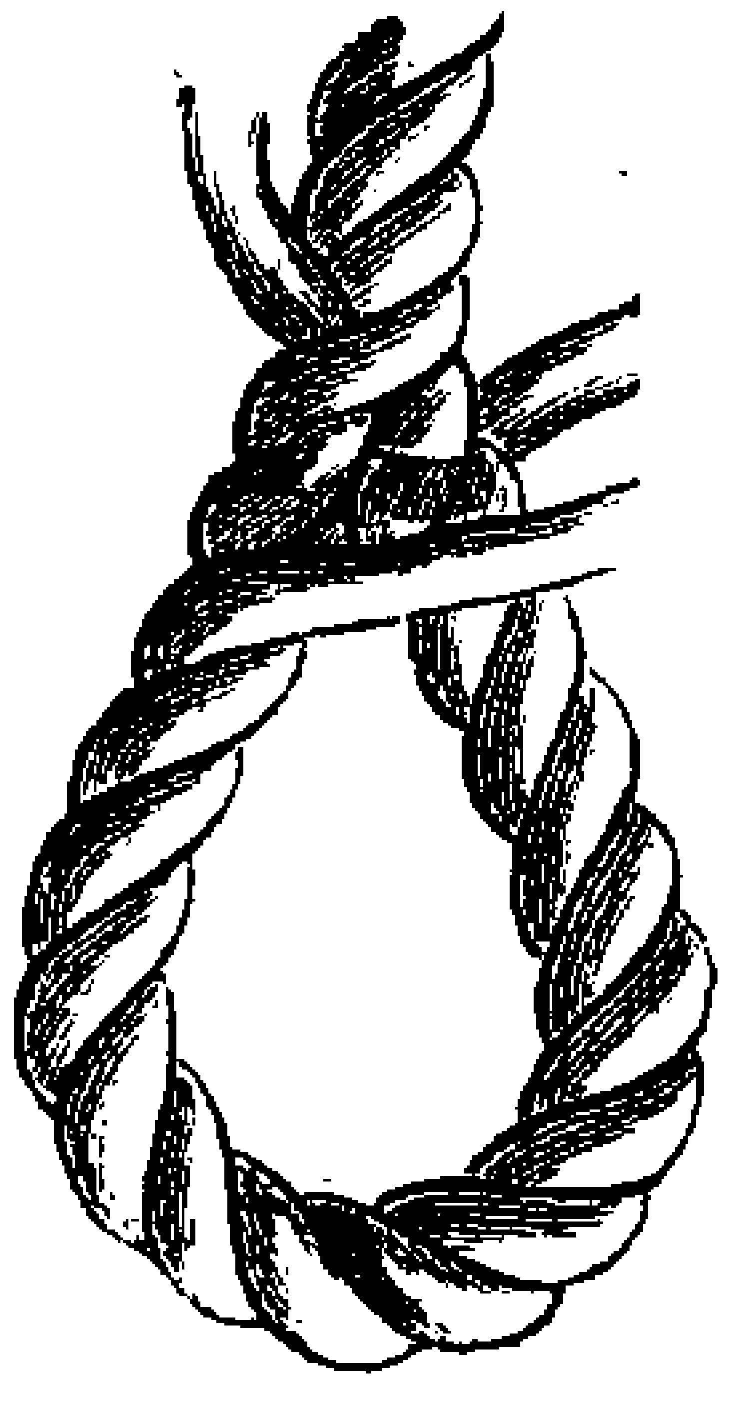


FIG. 161

FIG. 162[1]

material now generally used is carpet thread, and it should be of such thickness as will allow of thin silk or filoselle being placed on the nocking-point.

It is important that the nocking-point should exactly fit the

[1] Figs. 158 to 162 are from *Seamanship* by Captain G. Nares.

nock of the arrow, as, unless this is the case, a good flight cannot be obtained : the nock should fit sufficiently tight on the string just to bear the weight of the arrow. It is also most important that the nocking-point should be in the proper place, so that the arrow when shot shall leave the string at right angles to it, as, if the nocking-point is either too high or too low on the string, the arrow does not receive its propulsion directly through its centre from nock to point, which causes a certain amount of 'upset,' and spoils its flight.

In order to lap a string, first string the bow, and grasping the handle, as would be done in the act of shooting, with the left hand, place an arrow on the string so that it is at right angles to it when resting on the left hand, and the place where the nock of the arrow rests on the string is the nocking-point. Two inches above this point make a mark on the string; wax the string well for seven inches below the mark, and also the thread which is to be used for the lapping. Place the thread on the mark, double half an inch of one end of the thread down on the string, wrap the thread tightly over the end of the lapping and round the string, and continue the process till about 6¾ inches of the string is lapped. It is now necessary to finish off and fasten the end of the lapping. This is done by placing the thumb of the left hand on the end of the lapped portion of the string to hold the lapping in its place. Then bring the lapping over the thumb and string, and take five or six turns round the string with the lapping in the reverse way to that in which the string was lapped. Bring the end of the lapping, *c* (fig. 163), to where the lapping was left unfinished, lay it straight along the string, and lap it and the string with the part *a* of the loop *a b*; this will undo the turns taken round the string with lapping in the reverse

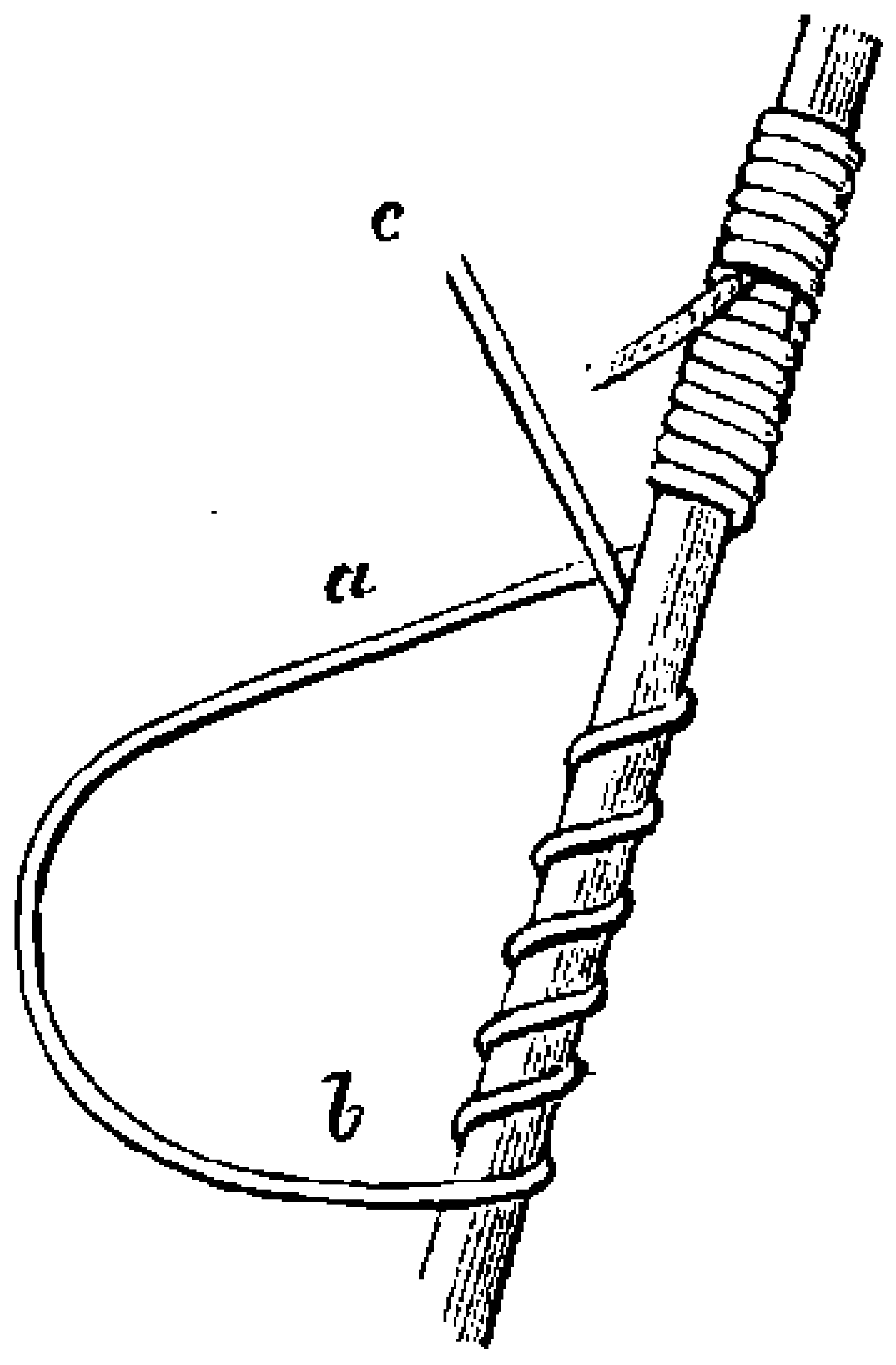


FIG. 163

way. As soon as all these turns are unwound, hold the lapping tight with the left hand to prevent its rucking up, by means of the end C pull the remainder of the thread through the part of the lapping which was last done, and cut off the waste.

Now hold the bow as before, and having found the nocking-point, as previously explained, wrap the string with filoselle at that place for half an inch. If the string has two eyes spliced on it, reverse it on the bow and wrap a second nocking-point on it, the alternative use of which will save the string considerably at this point. If it is desired to have filoselle for loosing, the string must be lapped over again with this material, but the nocking-point should in this case always be marked by a different colour being used for it.[1]

It is not a bad plan to lap a string with two or three strands of thread at the same time, as, if the string breaks at the nocking-point, the resistance offered by the threads materially lessens the jar on the bow.

Every archer should invariably have a second string lapped, and in every way ready for immediate use, for every one of his bows. Before shooting on a damp day, the string should be well waxed, and after shooting in rain it should be carefully wiped all over, and then waxed.

THE BRACER

The armguard or bracer is intended to protect the arm from the blow of the string when the arrow is loosed, and it has been made of many materials and shapes. Of course the arm should not be hit at all; but as this will occasionally happen even to the most expert shooter, and often does so with the less experienced, very few archers can dispense with a bracer. Formerly it was made of stiff leather and padded, there being some sort of idea that it was rather a good thing that the string should glide off it; and it has also been made of silver and ivory. Even now there are many patterns in use, from the

[1] Mr. Butt describes at length another excellent way of lapping the string.

lace-up gauntlet that goes right round the arm to the simple expedient of a thick postcard fastened to the arm by means of two elastic bands, which is the registered pattern of a well-known shot.

The bracer should fit as close to the arm as possible, so that no straps or edges can get in the way of the string. The best shape is the graduated one introduced by Colonel Lewin, which is made of horse-butt. It fits the arm well, and from the entire bracer, straps and all being made out of one piece, the leather has no tendency to stick out, which is the case if the straps are, as is often the case, sewn on.

The gauntlet shape, which laces, is equally good, but it is open to the objection of taking longer to put on; and if it

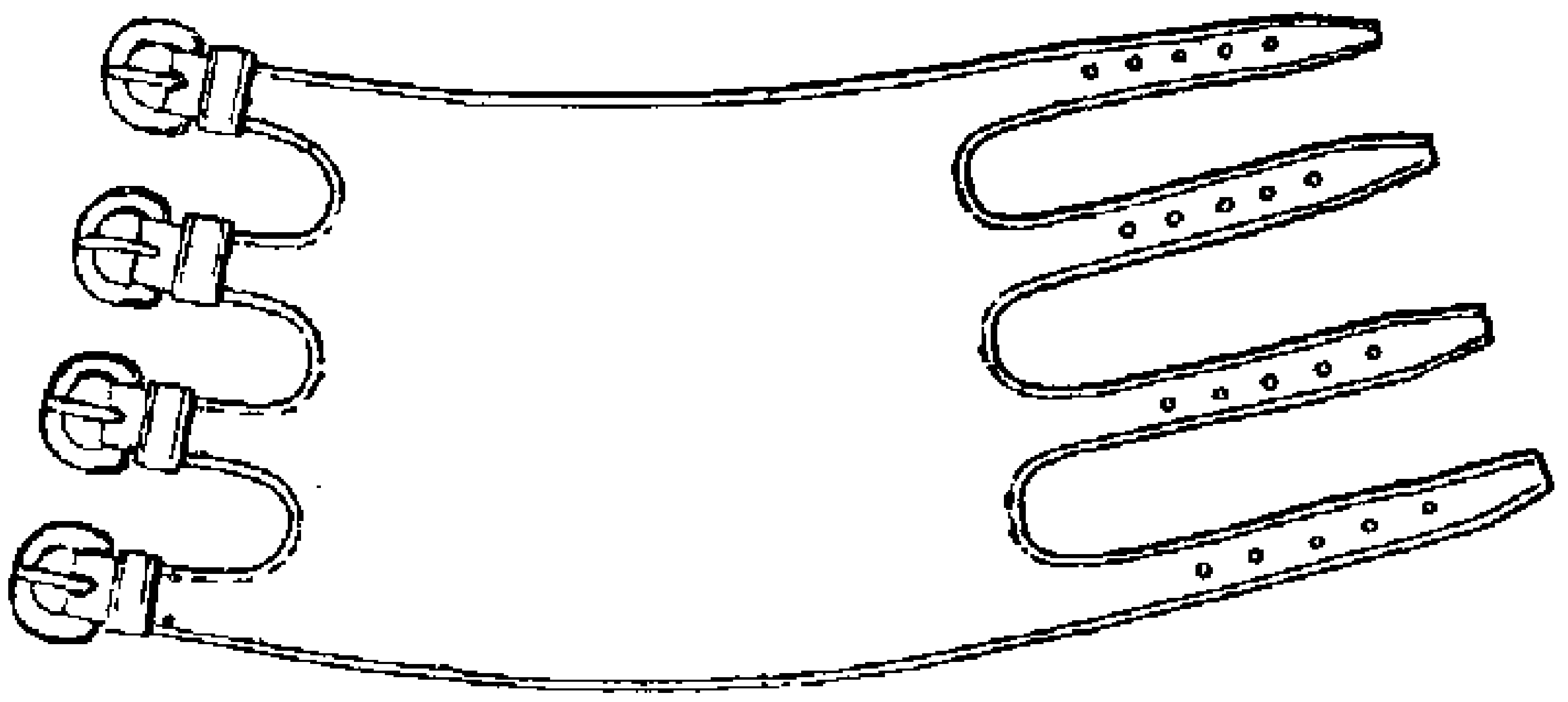


FIG. 164. Lewin bracer

is laced with hooks instead of eyelet holes, these are liable to catch, and may also damage a bow. A cheaper but also good bracer is made of calf-skin, with three straps (the whole cut out of one piece of leather). This is the shape generally used, especially by ladies: it has the drawback of occasionally slipping down, but this can be avoided by having a strap to fasten above the elbow, with another strap of sufficient length sewn *inside* it, and also *outside* the top of the bracer.

Before putting on the bracer, it is advisable to undo the shirt-cuff and turn it back over the arm; it is also necessary to see that the coat sleeve is folded smooth, so as to occupy as little space as possible. The bracer should then be firmly but not too tightly strapped on, care being taken that no part of

the straps are in the way. The upper part of the sleeve above the bracer should also be carefully arranged, and, if necessary, pinned back, as anything touching the string interferes more or less with the flight of the arrow. The bracer is sometimes sewn to the left sleeve of the shooting coat, the straps being left on so that they can be fastened round the arm, and this plan certainly ensures its fitting close ; but it is not always convenient to follow it, as it necessitates keeping a coat specially for shooting.

TIPS OR SHOOTING GLOVES

The shooting glove has also gone through many changes ; and numberless inventions—good, bad, and indifferent—have been brought out with a view of improving the loose. To obtain a good loose is such an important point that probably few archers of any note have not at some period or other tried many different experiments to secure it. It may be laid down as a rule that the leather of the tips or shooting glove should be as thin as it can be, consistent with providing sufficient protection to the fingers, for to secure a good loose it is necessary to be able to *feel* the string. For a sharp loose nothing equals a kid glove, but few people have sufficiently hard fingers to be able to dispense with more protection than this affords. It is not proposed to give a list of all the various devices that have been in use, commencing with the glove used some two hundred years ago, which appears to have been a wonderful contrivance, as it was made a receptacle for a spare string, bees'-wax, grease, and a few other odds and ends, but only to name the best finger protection now in use.

The ordinary glove without anything else, or with pieces of leather sewn on to the first three fingers of the right hand (fig. 165), is often used, especially by ladies, and with the weight of their bows does well enough, though it is advisable that the leather sewn on the tips of the fingers should be hard—horse-butt for choice—as anything in the shape of soft or spongy

leather does not give a good loose. For gentlemen, however, who use bows of greater weight, something more than a glove is usually required, as the strain on the fingers from loosing a strong bow is considerable ; but the exact amount of protection necessary must vary with the hardness or softness of each individual's fingers. The most usual form of protection now in use for the fingers are tips (of which there are two varieties, the 'screw' and the 'knuckle or parrot beak'), and the tab, which, however, is not so popular as tips, though those who use it speak highly of its efficiency.

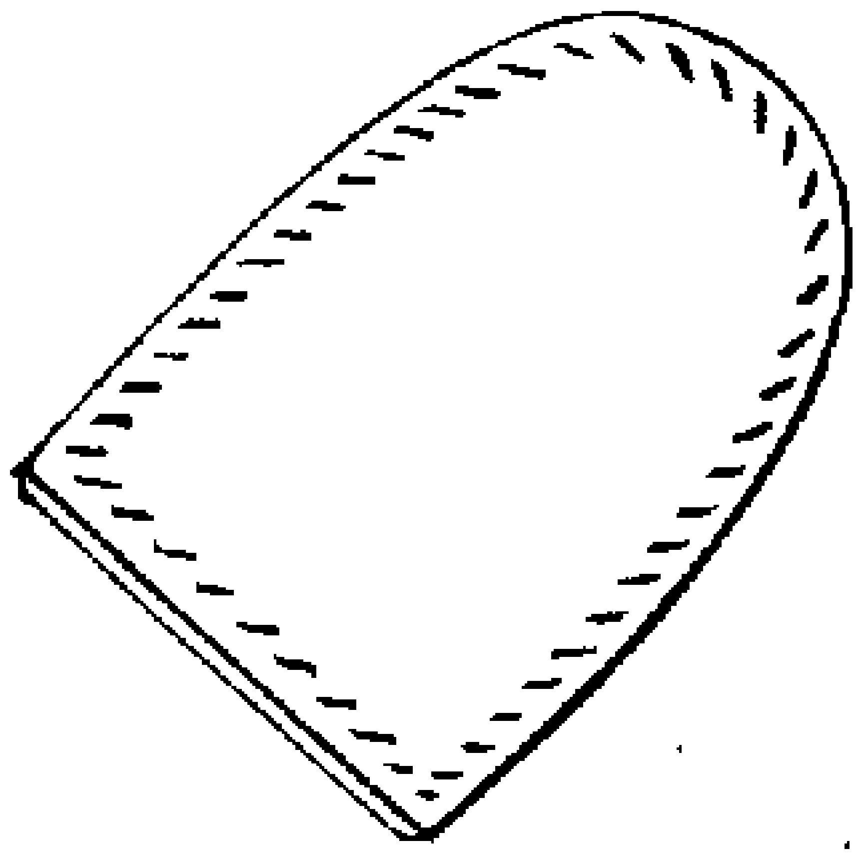


Fig. 165

The screw tip takes its name from having a small brass screw-bolt with a nut which can be adjusted and made as tight as may be desired, so as to prevent the tip from slipping off the fingers. It was invented by the late Messrs. Spedding and Mules. The knuckle or parrot-beak has no screw, but from its shape sticks to the fingers when the arrow is loosed. It was first introduced about thirty years ago, and no better

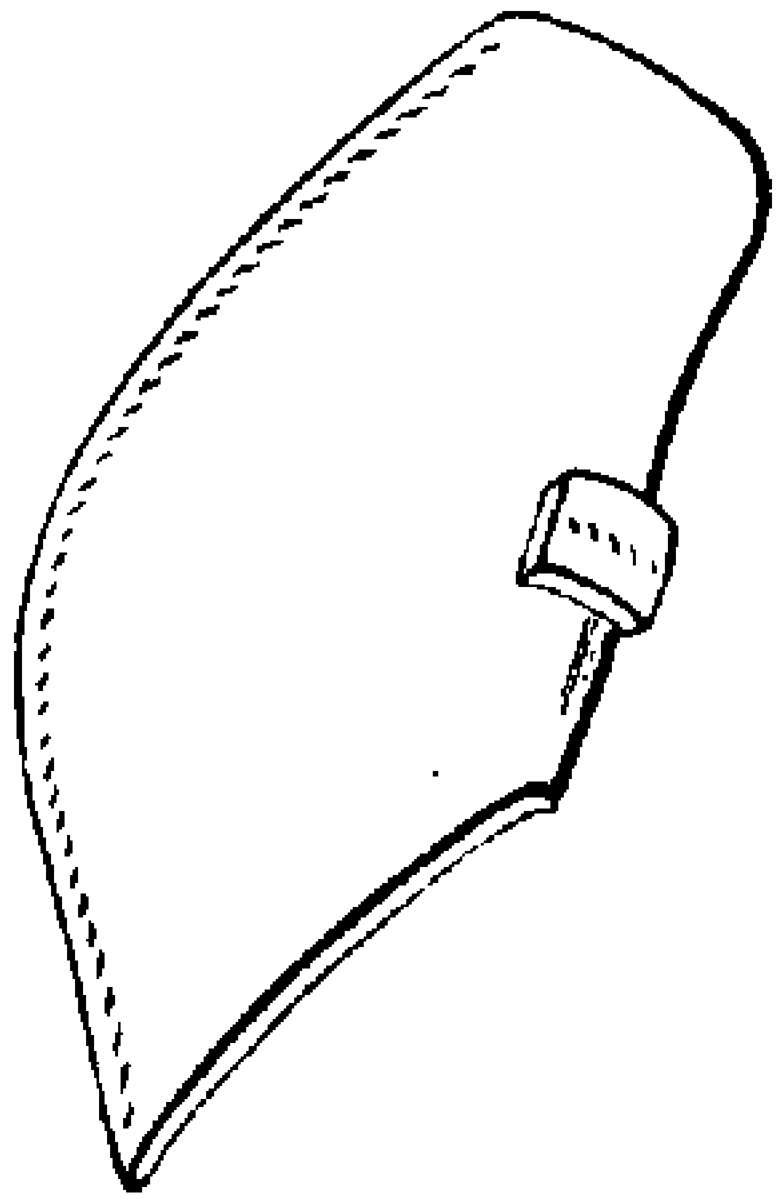


Fig. 166. Knuckle tip

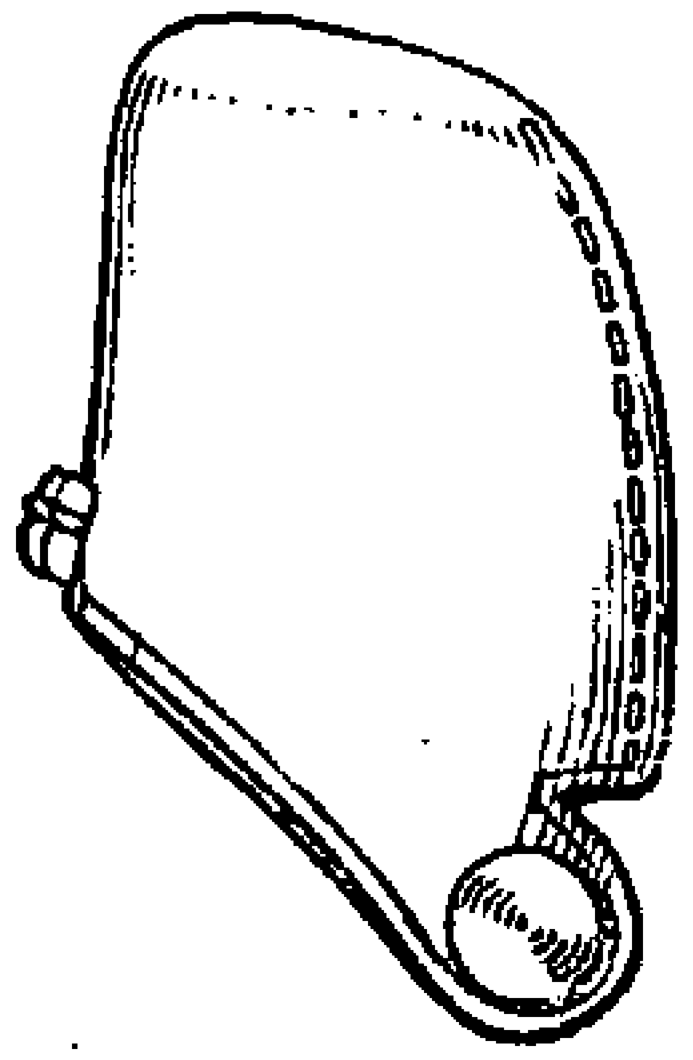


Fig. 167. Screw tip

pattern has since been invented. Both these tips are made of horse-butt ; opinions vary as to which is the better shape, though the former is more generally used. Whichever shape may be adopted it is most important that the tips should fit

the fingers perfectly ; for if they are too small the fingers will become cramped and be unable to loose the string properly. On the other hand, if they are too large they will fall off at the moment of loosing. Many tips must be tried on before a set can be found to fit, and this takes both time and patience, but a set of tips which fits perfectly is worth all the time spent in securing it. All three tips should be as nearly as possible of the same substance, and the tops of the fingers should just come to the top of the tips, which should fit well round each

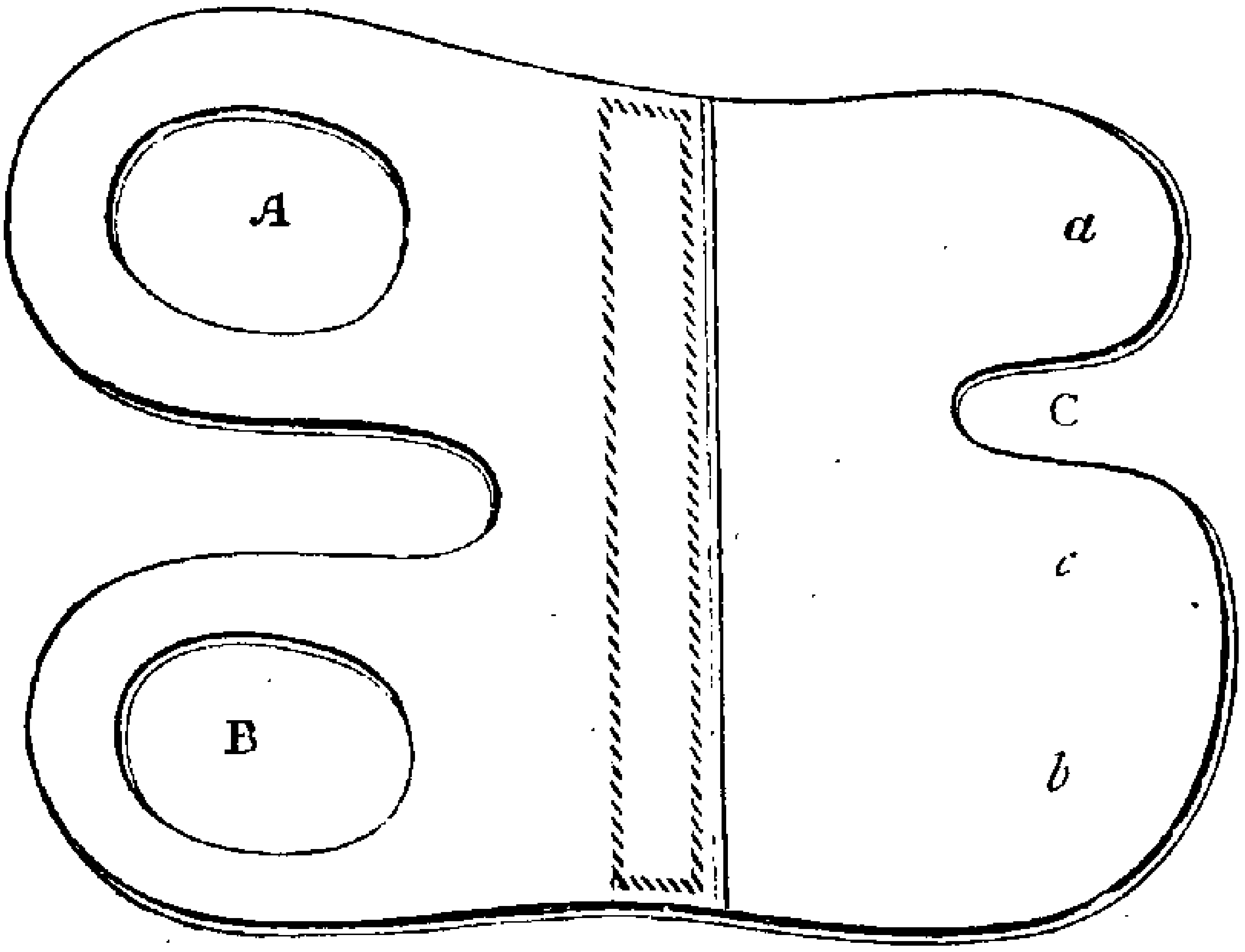


FIG. 168

finger. Ivory, quill and metal have all been tried for the face of the tips in order to improve the loose, but it has always been found that 'there is nothing like leather.' It is not a bad plan to moisten the fingers and rub them on a piece of glue before putting the tips on, as this makes them hold ; but unless they fit, no expedient of the kind will be of much avail.

The tab is usually made of two pieces of leather sewn together, the portion which holds the string being of horse-butt, and that through which the fingers pass of a more supple kind of leather. The method of using it is as follows :—The

first finger is put through the hole A, the top joint resting on *a* ; the third finger is passed through B, and the top joint rests on *b* ; the top joint of the middle finger is placed on *c*. The tab is then placed on the string, and the nock of the arrow held in the opening C. It is not, however, easy to hold the arrow on the string, nor is the tab easy to use, and consequently it is not recommended to beginners.

THE GREASE BOX

A grease box was formerly considered a necessity, as it was usual to grease the tips in order to assist the loose ; but improvements in their manufacture have, happily, done away with this uncleanly habit, which was of doubtful utility.

THE TASSEL

is used to clean the dirt from the arrows which do not hit the target. It is made of green wool, and should not be too large. The top of it is often used by ladies as a pincushion, which will be quickly discovered by anyone who uses a ladies' tassel for wiping arrows.

THE BELT, QUIVER, &c.

The use of the belt and quiver has quite disappeared among men, the arrow-pocket in the coat having superseded it ; and when this garment is doffed, the trousers-pocket acts as a substitute. With ladies, however, it is still required, as the quiver is their only means of carrying arrows. The belt is also useful for the purpose of suspending spare strings, bags, score book, tassel, and other feminine necessities. It is made of green, black, or buff leather, ornamented to the taste of the owner, silver prize ones being also occasionally worn by those who are fortunate enough to possess them.

THE SCORING BOOK

The present system of scoring is to put down the arrows that hit according to their value. For instance, a dozen would be marked thus :—

75, —, 531, 951 = 8, 36

the first three arrows shot having resulted in two hits—a red and a blue—the second three having missed, the three next having hit the blue, black, and white, and the last three the gold, blue, and white, being a total of 8 hits for 36 score. Any plain pocket-book will do to keep a score in in this way ; but the fastidious can procure ready-ruled books on this principle at Aldred's, which certainly look more neat than a plain book, and save some trouble. All sorts of devices have been in use at various times for scoring, but the above is the best method, as it is the simplest, records the result of every three arrows, and is the same as that in use at the public meetings ; while all the old methods, especially that of pricking the hits on a card, were vastly inferior to it.

THE ASCHAM

The cupboard, or place where bows, arrows, &c., are kept, is so named after Roger Ascham, and the term is also applied to the bow box, of which more hereafter. The ascham should be high enough to take bows at the back, and be so arranged that it also has a place for arrows in front ; the bows should be carefully put away in the ascham after use, and they should either be hung up or else the ascham should have a false bottom, raised some inches from the floor, as a protection against damp. The arrows should stand on their points, and each arrow should have a separate cell to itself, so that the feathers do not touch. This can be done by having a stand in front of the bows, and two pieces of board with corresponding holes pierced in them placed one at about six inches from

the bottom of the ascham, and the other fourteen inches higher up; the arrows can then be passed through the holes in the two boards, and will be kept in the required position. A drawer can also be contrived to keep strings, tips, and the other necessaries. Of course great care must be taken that the ascham stands in a dry place, especially by the seaside; though damp is to be avoided, the bows, arrows, &c. should not be kept too close to a fire, but in as even a temperature as possible.

THE BOW-BOX, POLE, AND ARROW-BOX

As it is necessary for the archer to have his ascham to keep his bows and arrows in when he is at home, so also does he require some means of taking them safely about with him to archery meetings.

The bow-box is made to carry the bows, arrows, and other things required, and is for many purposes the best thing to have. When packed it can be placed in the luggage van, and will come out all right at the end of the journey, but it is heavy and cumbersome. It should be made to take not fewer than four bows and two dozen arrows. The usual patterns open in the middle, the arrows taking up an unnecessary amount of space; the best plan is to have the bottom of the box to take the bows, and place the arrows side by side, the feathers being alternately at different ends, and as close as possible to each other in the lid, which should be about $2\frac{1}{2}$ inches deep; there should be fastened at each end of the lid two racks (fig. 169) to take the arrows, and hinged to one side of each rack a piece of wood to bolt down over it in order to hold the arrows in their place. Between the two sets of arrows there will be plenty of room for spare strings, tips, arm-guard, &c., which can be kept in their place by a cover. The bows should simply be held by two leather straps and buckles screwed to the bottom of the box.

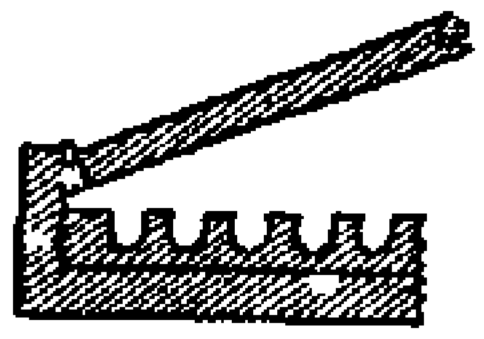


FIG. 169

The box itself should have two leather straps screwed on to the bottom, which can be buckled over, with two handles between them. Oak is the best wood for the box, but if this is thought too heavy, deal can be used ; in either case it should be made with a 'caddy-lid,' i.e. have an inside ledge all round it, or water will find its way in, should it be exposed in the rain.

The 'pole' is a case made of waterproof mail canvas which will hold four or five bows. It locks up by means of a strap and padlock, and is now much used, as it is very handy and light, and can be put in the rack of a railway carriage ; but of course it is not safe to send it in the van, nor can it with prudence be left in the tent from day to day at a public meeting. It also necessitates taking an arrow box ; but if the personal supervision it requires is not objected to, it is the handiest form of a portable ascham.

Arrow-boxes are made of all sorts of patterns, from the ordinary deal box with divisions, in which arrows are sent out, to the elaborate polished article decked all over with ecclesiastical brass ornaments. The arrow-box should have a small compartment in it to hold strings, bracer, tips, &c., and it should also be possible to take out any one arrow without disturbing the others. The best pattern, or, at any rate, one of the best, which meets all these requirements is that known as the 'Wiltshire.' One end hinges, so that any arrow can be taken out (as they are placed in it in the same way as in an ascham). It is fastened when shut by the lid, which projects over the box all round, effectually keeping out rain, and there is a compartment for strings at the end. A piece of wood, sliding in and out to alter the length, will also allow of ladies' arrows being carried. The tin quiver of bygone ages, with the arrows all jumbled up together, is an abomination.

THE TARGETS AND STANDS

Targets should be four feet in diameter, made of wheat straw bound tightly round with tar cord, and should be thick

enough to protect the arrows from the stands. The faces should be made of good floor cloth, well seasoned and 'flatted,' having five equal concentric circles painted on them, the centre being gold, the others red, blue, black, and white. The stands should be 6 ft. 6 in. long, made of three pieces of iron or wood joined at the top, where there should be a spiked hook, two other spikes being placed one on each of the two front legs, about 3 ft. 3 in. from the top. If they are of iron they should be served round with hay and cloth, to save the arrows; if of wood they should be padded. The wooden target stands are supposed to save the arrows most, but from their greater size it is very doubtful if there is any advantage in having them.

It is advisable, if the targets are left out, to have loose waterproof covers which can be put over them when the shooting is finished.

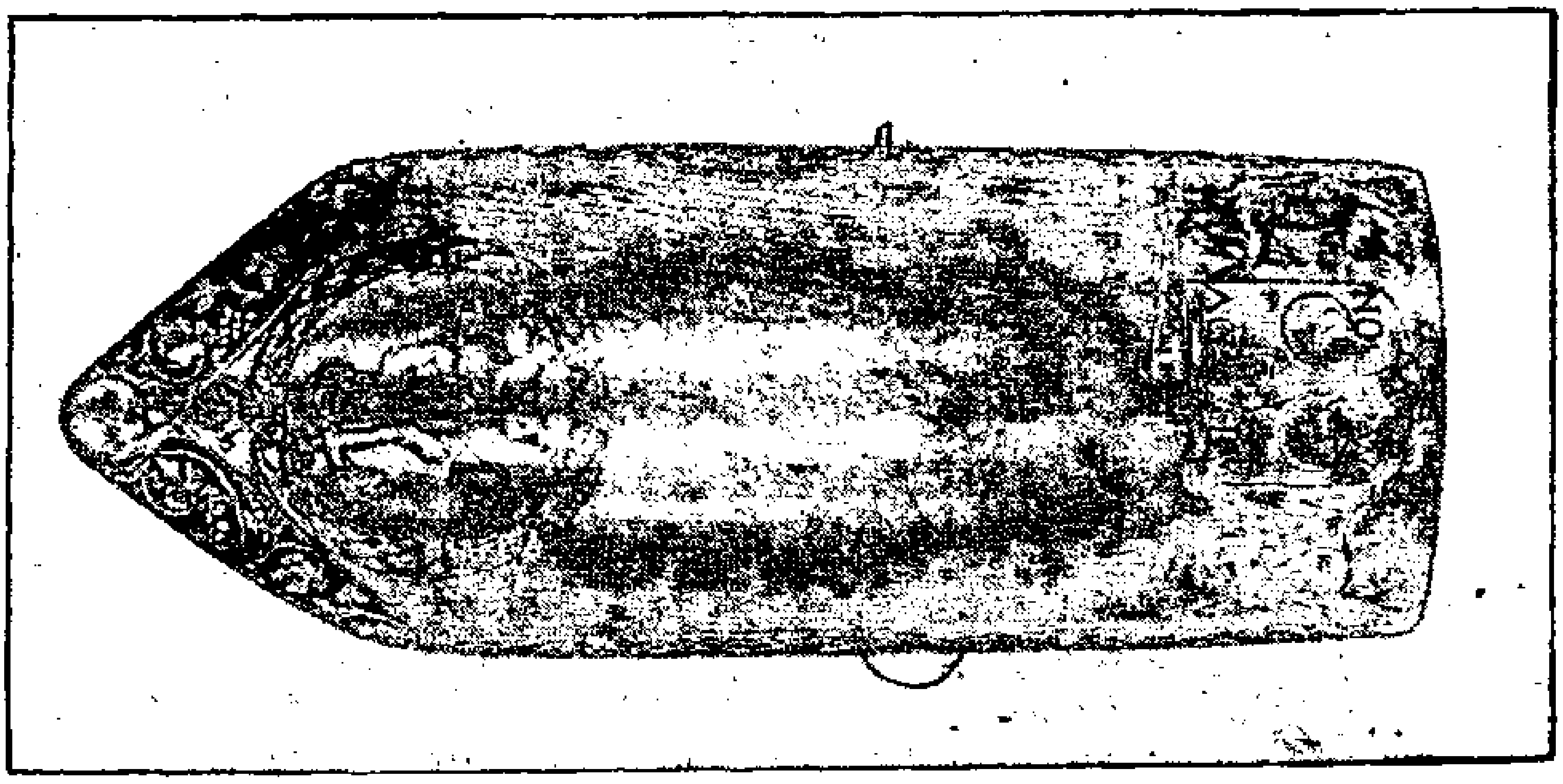


FIG 170. Ancient French Ivory Bracer
(From the collection of C. J. Longman, Esq.)

CHAPTER XX

PRACTICAL INSTRUCTIONS IN SHOOTING

BY REV. EYRE W. HUSSEY

IN writing upon such a subject as this it is, perhaps, well to remark at starting that the ground which must be travelled over has already been most carefully surveyed by the late Mr. Horace Ford in his 'Theory and Practice of Archery.' Mr. W. Butt, in bringing out a new edition of this work, enlarged it by adding much valuable matter, gathered from a long practical experience as a skilful bowman, keen observation, and a thorough love of the sport. In giving any practical hints on archery, it naturally becomes a necessity to revert from time to time to much which has already been written on the subject, because we are bound to follow where practical experience has marked out the way.

Archery, in the majority of cases, is picked up from some friend or neighbour, who may, or may not, know something about it. If the former is the case it is well; for not only will the beginner start right, but will obtain some inkling of the theory which will come well to hand at those periods at which all archers suffer, viz. periods of 'breakdown.'

Like other misfortunes in this world, a breakdown affects different people in different ways. Some set to work at once to try to find out what is amiss with *themselves*; others attribute the collapse to the favourite bows having 'lost their cast'; others change the length or weight of their arrows, but many remain *in statu*, and never seem able to rally at all.

To the uninitiated it appears ridiculous that a man who,

perhaps, early in the season has shown most creditable attainments should suddenly disappear from the front rank for, to them, no apparent reason ; but it is no matter for surprise to an archer who knows the extreme sensitiveness of his weapon, and the numerous delicate operations which must be accurately performed before a satisfactory result can be achieved.

In order to shoot with any prospect of success, and to retain the art when once the first difficulties are surmounted, it is necessary that certain principles upon which to work shoul be fixed in the mind. These principles admit of considerable variation in the carrying out, but as principles upon which to build up archery they remain.

In order to be impressed with the necessity of working by definite rules, it may be well to glance briefly at the weapon to be used, and the machine which is to ply it. The long-bow and its attendant arrow is a compound weapon of great simplicity in itself ; a simplicity which partakes of rudeness, and stamps it as having its origin in primitive times.

Simple and innocent, however, as it appears, and capable as it is of being a trusty friend and ally, a bow is at the same time a watchful enemy, ready to take advantage of the smallest slight.

'If it be possible'—as the late Mr. Euclid used to say—imagine a horse that is a desperate puller with a very light mouth ; a man with *hands* would probably declare 'he was never so well carried in his life' ; but the man with 'no hands' would promptly be a candidate for splints or elm boards. Now, a bow is like that sort of horse—charming if properly used, but if otherwise, a compendium of concentrated cussedness capable of challenging Creation with certainty of success.

With regard to the machine which is to supply all that is wanting in the bow, in order to reduce it from its crude state to a weapon of some sort of precision. This machine is one of most delicate organisation, being, of course, the human body ; but *quot homines tot differentiæ*, which, being interpreted, 'few people being constituted alike,' renders a hard-and-fast rule on

many points in archery impossible. Muscular power, or the want of it, may be met by the proportionate strength of the bow ; but unequal power of sight in the two eyes, height, breadth, length of arms, difference in length of the first and third fingers of the loosing hand, are all matters which can only be adapted to as close proximity to the ideal as circumstances permit. Being right or left handed matters little, as the position and action in either case are only the reversal of the other. And then there are those nerves ! How much depends on them, and how unreliable they are, is known to every archer who has 'toed the scratch' at sixty yards on the second day's shooting at the Grand National Meeting. There are many things which we can get through fairly well without *showing* our nervousness ; but when it comes to the firm yet delicate manipulation of a bow, it is just one of those things which cannot be concealed ; the unsteady flight of the arrow discovers it directly.

Steadiness of position will do more than anything else to restore waning confidence ; and some knowledge of the theory of archery, and so of one's own weak points, will prevent the horrible sensation, under which so many go down at a pinch, that you must cry out with dear old pusillanimous Balbus that 'it is all over with the army !'

The bracing or stringing of the bow, though it has not actually much to do with the shooting, is an essential preliminary, and attention to certain details when it has been accomplished is needed to insure the true cast of the bow.

The good old method of our boyhood, viz. sticking one end in the ground, placing the knee about the middle of the bow, and pulling the other end towards you, while you slipped the eye into the nock, or more usually tied the loose end of the string round a notch, is not held in favour amongst archers, though occasionally beginners may be seen trying to carry out the plan, struggling round and round like a rider endeavouring to mount an unwilling horse. The proper method is simplicity itself. Usually someone shows the beginner how it is done,

which makes it easier to learn, but for the sake of completeness it shall be set down here.

Place the bow back uppermost (the flat side) with the lower horn against the right foot, or in the hollow of the instep, so that it will not slip; grasp the handle with the right hand, and place the lower part of the left hand on the upper limb of the bow at such a distance from the nock that when the fingers are extended they can easily reach it; keep the first and second fingers bent at first, the tips resting against the eye of the string. Stand perfectly upright so as to have full power, pull the bow towards you with the right hand, pressing the upper limb down and extending the fingers of the left hand at the same time, till the eye of the string slips into the nock.

Some archers prefer to reverse the hands and use the left foot as a fulcrum, but it makes no material difference. To unstring a bow the position is the same, and the action similar, sufficient pressure being put on to allow of the eye being slipped out of the nock, this pressure being *gradually* reduced after the object has been attained, in order to avoid pinching the fingers with the released string; most beginners make acquaintance with this result, but not often.

Roger Ascham in 1545 was apparently exercised by the eccentricities of his fellow-archers, and so put pen to paper on the subject. We always quote him about now, because he divided his subject into 'five heads,' and these are called the 'five points of archery.' These are his words: 'Fayre shootynge comes of these thynges: of standynge, nockynge, drawynge, howlding and lowsyng'; and these five points have usually been considered by writers on the subject in the order in which they are laid down.

It must not, however, be supposed that these are five separate and distinct actions independent of one another, but rather that they are distinguished for the purpose of description.

Standing and nocking are closely allied, and nocking and drawing are related to one another, though only distantly; while drawing, aiming, holding and loosing, all work with

complete reference to one another. There is much to be thankful for in the fact that the author of the 'five points' was either ignorant of 'aiming,' or 'gave it up' as a conundrum too deep for him. Many people consider it a hard subject to master when scientifically described in the vernacular, and it certainly would not have been improved by a reckless waste of y's and w's. There is little doubt that the success of a shot depends, far more than is commonly supposed, on the standing or position—as it is usually called—of the archer. If this is faulty, it becomes impossible to carry out correctly the delicate manipulations which follow. It was the place to stand upon, and consequently erect his machinery, which presented the insuperable obstacle to Archimedes' experiment of moving the earth; at least, so we are told.

The 'place to stand upon' is usually provided for the archer at the best regulated meetings of the faculty; but it does not always follow that it is a *good* place, and if any argument were required to prove the necessity of a good position in order to produce a 'good arrow,' it would be found in the disconcerting effect on a good archer of a 'nobbly' or uneven footing. The muscular power of the arms has to be exerted in a way to which the beginner is entirely unused, and to secure the co-operation of the rest of the body it is necessary that the position should be such as will afford the greatest amount of assistance under adverse circumstances. A weight of, say, fifty pounds has to be moved, and briefly sustained, with the left arm extended, and the left hand, right hand, and right elbow in a line almost horizontal; the first finger of the right hand just touching the jawbone close to the chin, directly beneath the right eye. Anyone placing the hands and arms in that position for a moment, and remembering that the strain will come on the first three fingers of the right hand, will acknowledge at once that the attitude is not one which would be adopted naturally, if the object was only that of moving and sustaining the weight. The level of the hip-joint would be about the height at which the effort would be made,

with the body thrown back to assist the muscles. To illustrate this, it is only necessary to hand a bow to a muscular man ignorant of its use : the result of his endeavours to draw it up is something marvellous. Guided by the light of nature, he pulls to the centre of his chest, but having no assistance from *position*, his shoulders attain to the level of his ears, his body bends in the direction of the point of the arrow, and he usually takes one or two short steps forward in order to sustain his equilibrium.

That the arrow may be brought in proximity to the eye within certain (or uncertain in some cases) limits, the unaccustomed attitude has to be assumed, and it is on account of this that the necessity arises for taking up such a position as will counteract the natural tendencies. The standing or position is, therefore, of the greatest importance. It has been well laid down 'that an archer's general position may be a good one it must possess three qualities—firmness, elasticity, and grace. *Firmness*, to resist the strain and the recoil of the bow, for if there be any wavering or unsteadiness the shot will probably prove a failure ; *elasticity*, to give free play to the muscles, and the needful command over them, which cannot be the case should the position be rigid or stiff ; and *grace*, to render the archer and his performance agreeable, and not ludicrous, to the spectator.' It may be a question, however, whether the latter term, *grace*, quite meets the case, when we recollect that all sorts and conditions of men and women are included in the category of archers. Grace, in the ordinary acceptance of the term, conjures up visions of sylph-like forms and taper waists ; but it seems to fit in badly with fifteen stone and upwards, and surely disappears when the tailor removes his tape from amongst the lower waistcoat buttons, and with a voice like a leadsman in a fog records the soundings to his assistant as 'forty and a 'alf.' Ease is the better word, for it can be and is attained by very many to whom the more poetic attribute is denied ; therefore let us say—firmness, elasticity, and ease.

The standing, footing, or position of the archer is practically divided into two parts, viz.:

1. The position taken upon the shooting-mark when the bow is grasped, the arrow nocked, and the fingers placed upon the string.

2. The slight alteration in the upper part of the body which necessarily attends the process of drawing, in order to distribute the weight in such a manner as to counteract the opposing force of the bow.

For the sake of clearness it may be well to consider the latter under the head of drawing, merely remarking here that, after the stand has been taken up, the *feet* should not be moved, by which it may be understood that placing the feet in the right position should be the first care of the archer, so that the position of the body may follow as a natural consequence. Everything from this point must be done *with reference to the object aimed at*; at least as far as position goes. In the ideal footing a line from the object—for practical purposes the centre of the target—should pass through the centre of the heels, which should be neither too close together nor yet too far apart, a space of six or eight inches intervening between them. An angle of from forty-five to sixty degrees has been recommended for the position of the feet (fig. 171);[1] but this must depend very much on the angle at which each individual would place the feet naturally—the heels being located as above directed—in order to take a firm and comfortable stand in, say, a sudden gust of wind. The body should be erect, but without rigidity; the legs at the knees straight, without being braced back; and the weight, for the time, evenly distributed on both feet.

An identical similarity of position amongst archers is difficult to find, probably from physical reasons. Some good archers advance the left foot a few inches beyond the imaginary

[1] Figs. 171, 172, 173, 174, 175, 178, 179, 180, 181 are from 'Ford on Archery,' edited by W. Butt.

line through the heels (fig. 172), and others the right foot (fig. 173); the object being, in the one case, to assist in keeping the right shoulder and elbow back, and in the other to clear the chest with the string—if there is any tendency to draw the string against it—or to overcome the difficulty which some archers have of turning the head sufficiently round. It will be seen from the diagram that in fig. 171 the shoulders at A and B are in a direct line with the object aimed at; consequently, if the left arm is extended, and the left hand brought in a line between the right eye and the mark or object, that hand, the right hand beneath the eye and the right forearm to the elbow, will form another line nearly parallel with the shoulders. This is the ideal; but, as everyone is not 'built that way,' the modification of the position of the feet in figs. 172 and 173 should be made after careful consideration as to which of the two is better calculated to overcome the difficulty which the individual archer meets in endeavouring to attain the ideal. It frequently occurs that an archer develops a tendency to send down apparently good arrows to one particular side of the target on a still day. The fault generally arises from some slight alteration of the position of the body which prevents the arrow being brought up in a true line, or causes loss of firmness in the loose. If the deviation of the arrow is to the left, the slight advance of the left foot (fig. 172) will sometimes effect a cure; if, on the other hand, the arrow flies to the right, the advance of the right foot may be the remedy; the alteration in the position of the body from the change of position of the feet rectifying the error. As the line of the shoulders follows the line of the heels, the same result may be obtained by raising

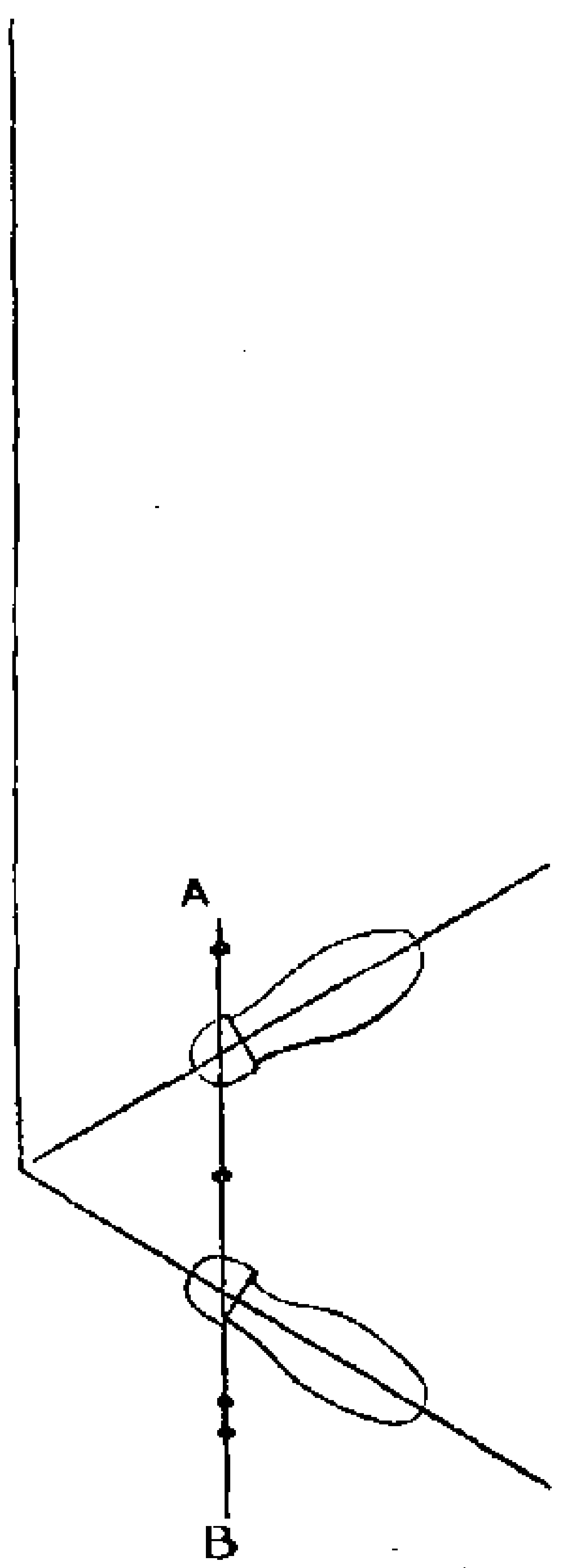


FIG. 171

the toes and turning on the heels slightly to the front or rear, as the case may be. These changes would only meet with success when there was no other *apparent* reason for diverging arrows ; still, if in a match or on any important occasion, the archer is unfortunate enough to have to seek for the reason for shortcomings, it is well to try the experiment ; if it does

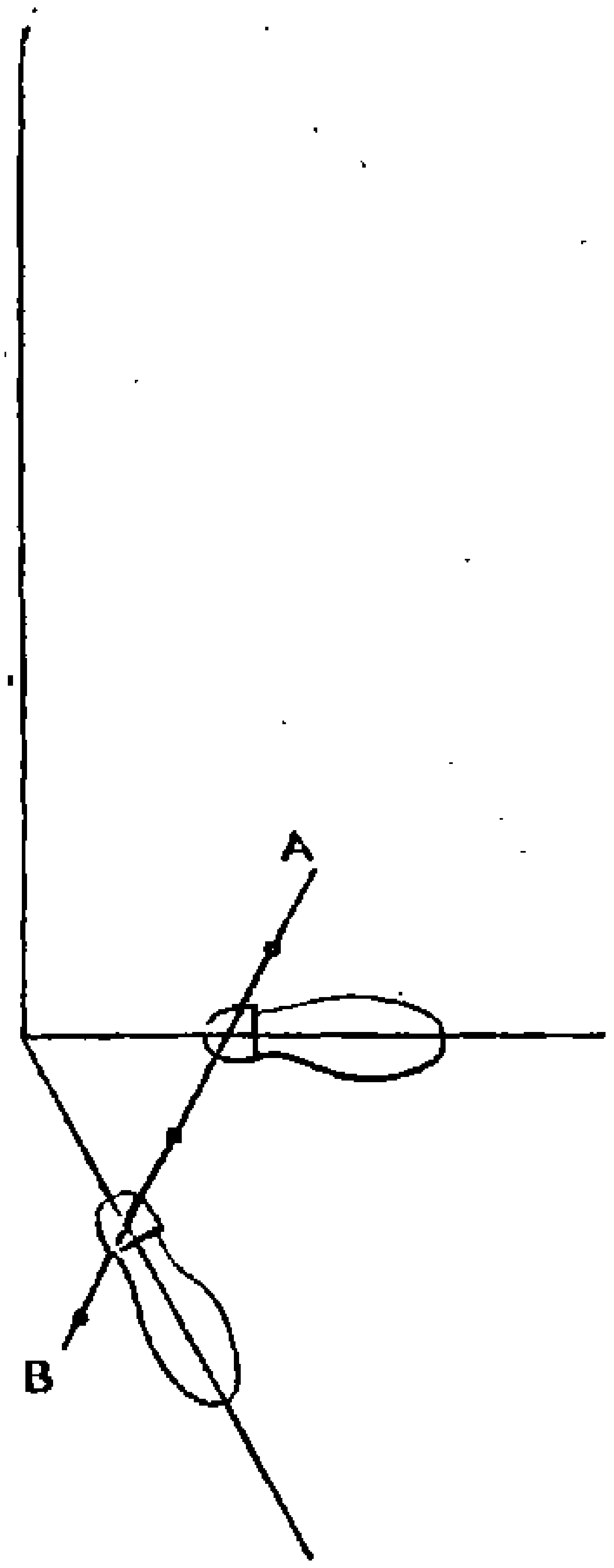


FIG. 172

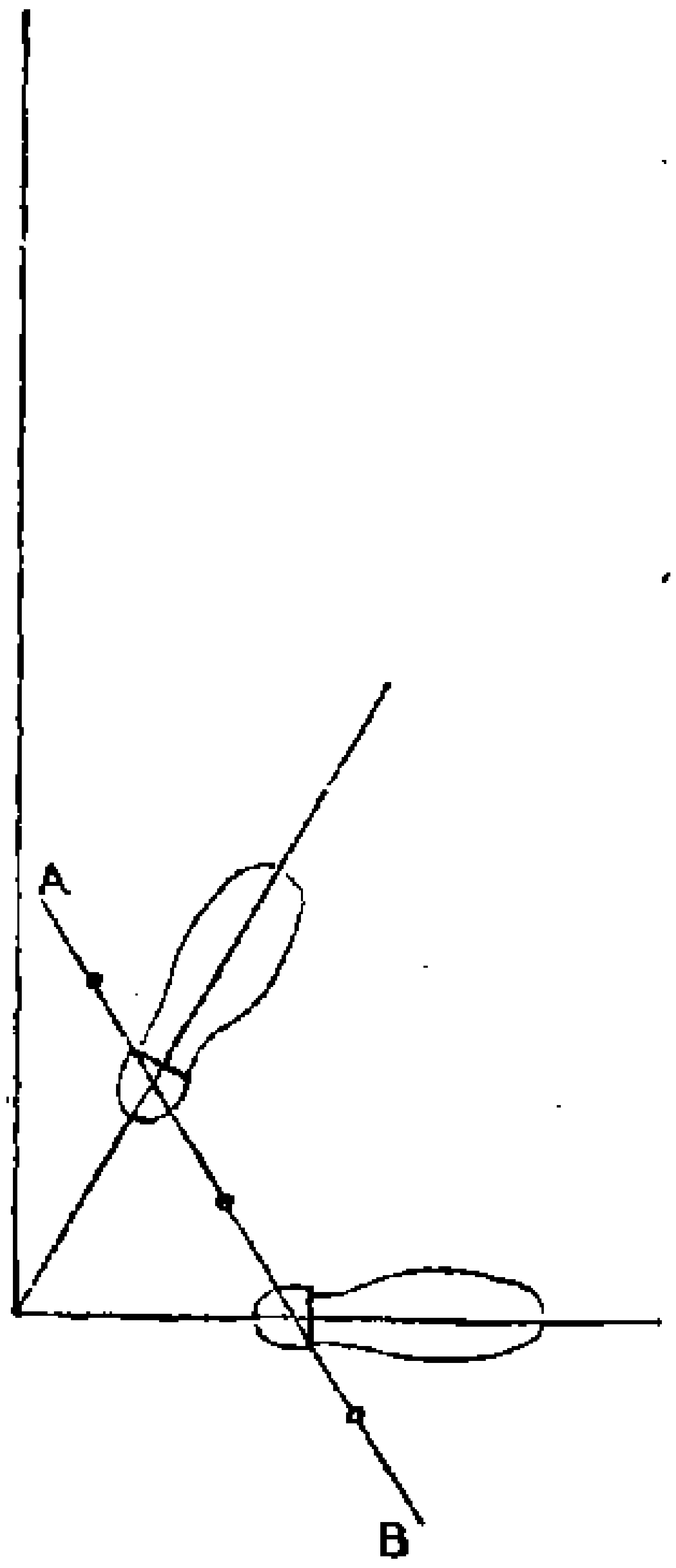


FIG. 173

no good, it will probably do no harm, and it has often been found to rectify the unknown fault, and enable the archer to take up the normal position later on. Before proceeding further it may be well to notice that, in taking up a position with reference to a direct line to the object aimed at, it frequently occurs that, owing to a strong side wind, it is necessary to aim a target's width or more to one side of the target. When such is the case, it should be remembered that the position should be taken up with reference to the *point aimed at*, and

not the target. Many archers are especially 'bothered by the wind' from neglect of this. They stand with reference to the *target*, and not the point of aim; consequently, at the last moment of the loose, the body, which has been slightly turned to make the windage allowance, comes round to its position for the target; and the arrow, instead of starting on the point of aim, and gradually drifting to the target, starts on its course direct for that obnoxious composition, and falls to leeward. It is a very small alteration in the position which takes place, but archery is made up of little things. The footing

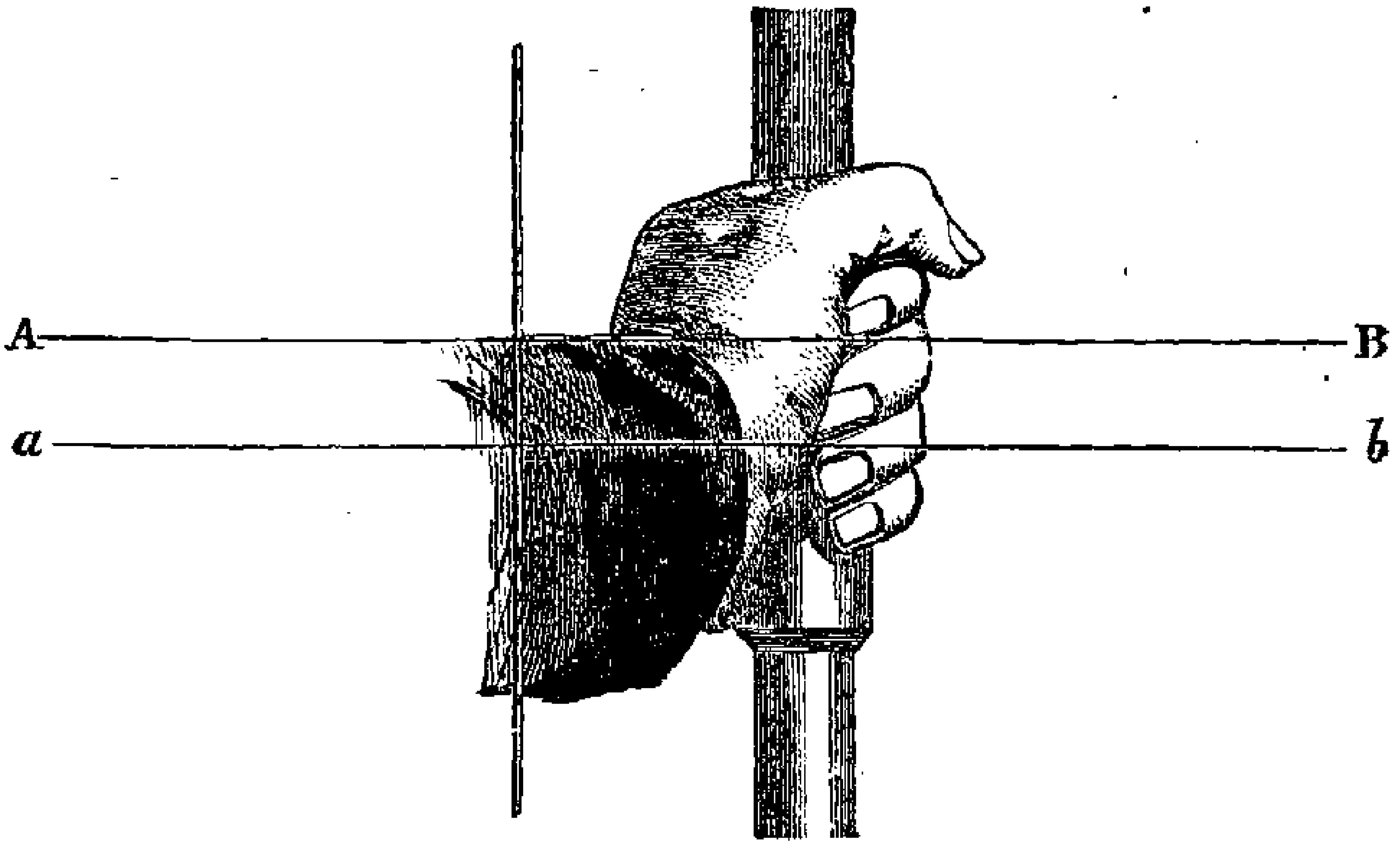


FIG. 174

having been taken with due regard to the object to be shot at, and also to firmness, elasticity, and ease, the next item which requires attention is the proper method of grasping the bow in the hand. It is not a matter of necessity that the bow should be settled in the hand after the footing is taken; but that time is as good as any other: the more methodical an archer is the more deliberate he will become; anything like hurry or bustle in archery should be avoided if possible. As a matter of fact, many archers settle the bow in the hand either before they go to the shooting-mark or while moving up.

If, however, the habit is formed—and it is a very good one—of never shifting the left hand on the bow till after the third arrow is shot, it is well not to tire the muscles more than absolutely necessary. There is no need for grasping the bow tightly till the draw is commenced, but practically there is more tension of the fingers around the bow than the archer is aware of. The habit of not shifting the hand on the bow, just mentioned, is, of course, subject to the absence of any accidental twisting of the bow in the hand during shooting. Some archers endeavour to obviate this by the use of powdered resin on the handle of the bow and palm of the hand, but it is a nasty, sticky business in hot weather, and is better avoided.

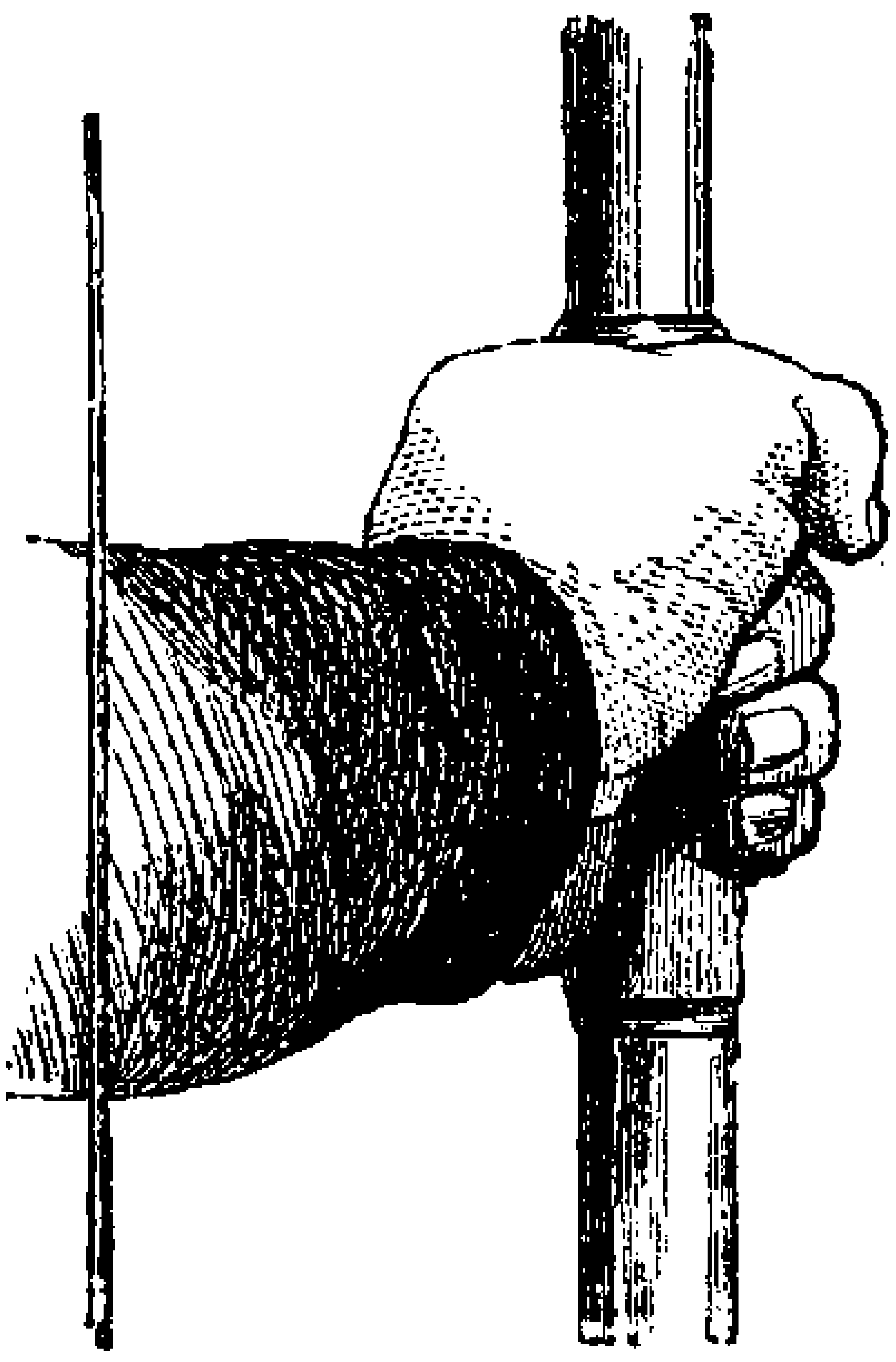


FIG. 175

The diagrams (figs. 174 and 175) show the right and the wrong method of holding a bow, and, as the right method is very important, should be carefully studied by all beginners in archery. The object is not only to hold the bow firmly, but also to allow the string when at rest, drawn up or released, to divide the bow longitudinally. If the top of the first finger and thumb of the left hand are joined together, it will be seen that they form—roughly speaking—a four-sided figure; the centre of the belly of the bow, and consequently of the string, should lie on a diagonal line between the angle formed by the second knuckle of the first finger and that of the lowest joint of the thumb (fig. 176). If the palm of the hand is now observed—with the finger and thumb as before—the perpendicular position of the bow should be straight across the palm of the hand at the base of the fingers, and not in a slanting direction against the ball of the thumb (fig. 177).

If a bow is taken in hand in the manner described, it will

be seen that, first, the string is clear of the arm, with no danger of hitting it ; and, secondly, that it lies in such a direction that, if the left arm is extended and an arrow drawn up, the latter will readily underlie the axis of vision of the right eye—a necessity to be described later on. Unfortunately, the wrong position (fig. 175) is the *natural* way of holding a bow if it is taken up without any reference to the work it has to do ; but when that important matter does come under consideration, a few experiments made with a strung bow, merely held in the hand, will demonstrate the evil results likely to occur. In the first place, the course of the string as it returns to a state of rest will be through a part of the left arm. When the string is drawn and released, it will strike on this part of the arm, and the course of

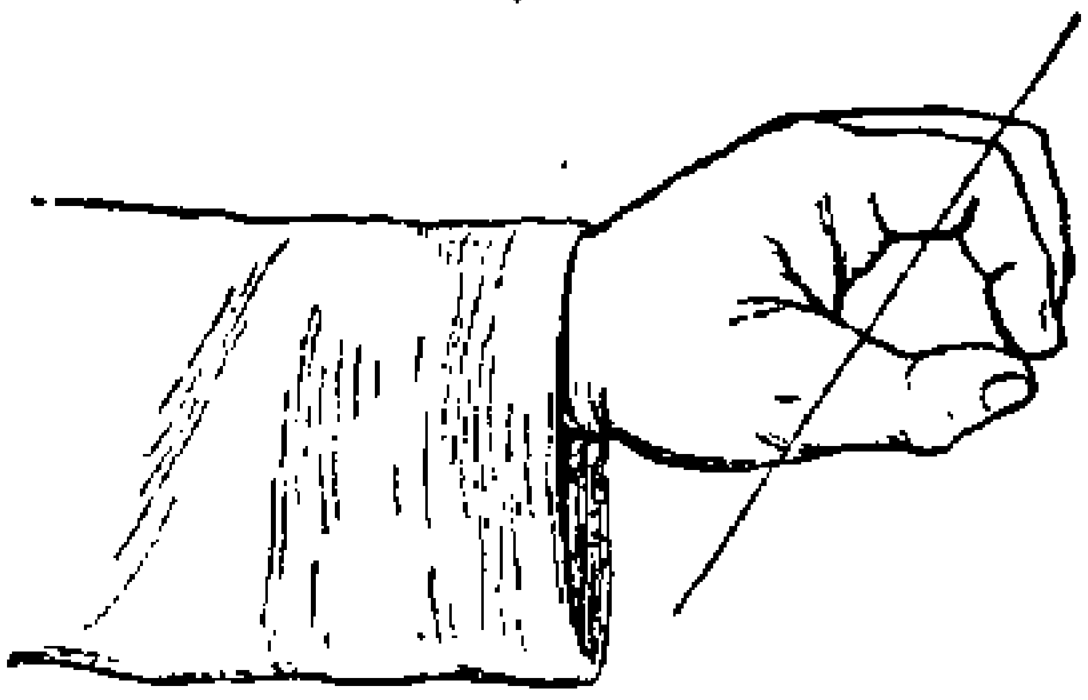


FIG. 176

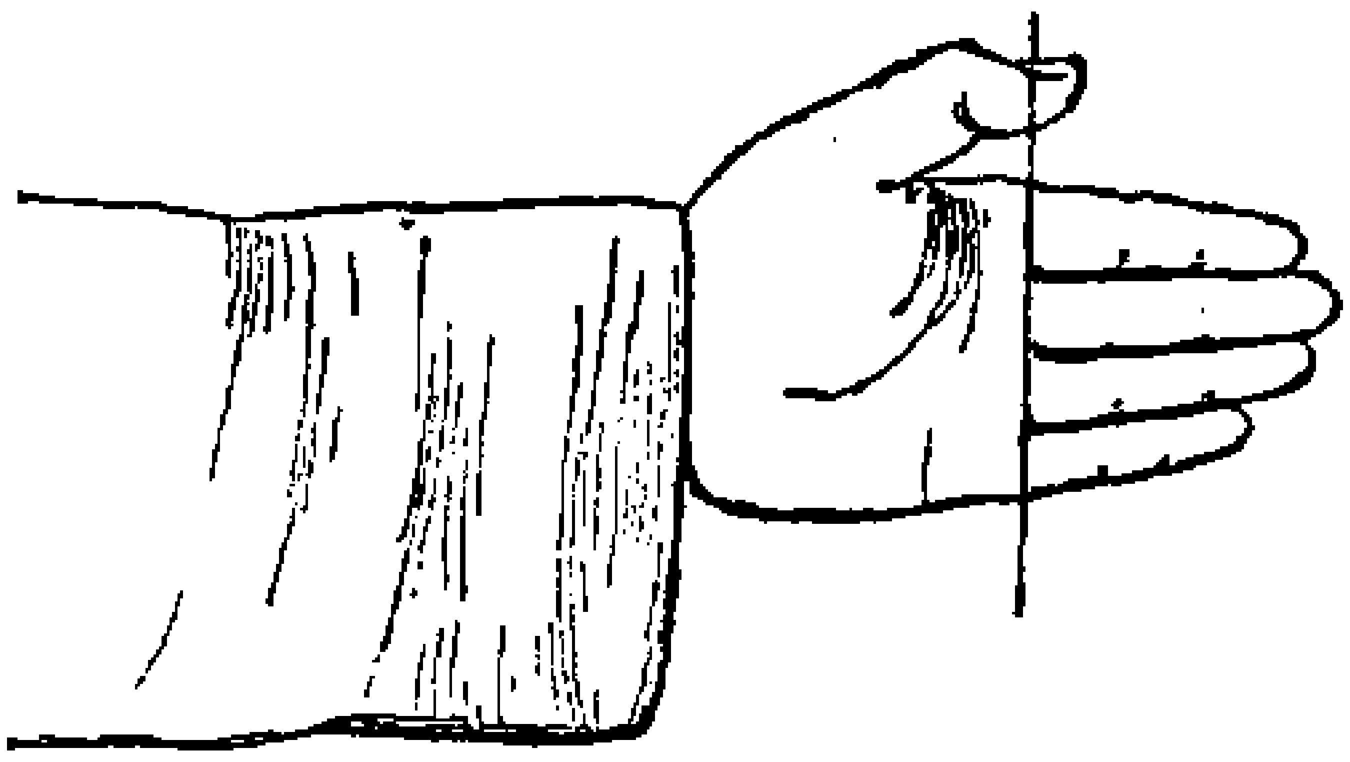


FIG. 177

the arrow will be deflected to the left. A clear and free passage of the string from one end of its course to the other should be reckoned of the first importance, for most archers know how detrimental to good shooting is the slightest touch of the string, even on a wrinkle of the coat sleeve. Another result from this mode of holding a bow is a continual struggle between the bow when drawn and the bow hand ; the centre line of the bow lies in a direction nearly central to the left arm, while the string is drawn in another line beneath the right eye ; if the bow is grasped tightly, there is considerable risk of twisting the fibres of the wood, and rendering the weapon useless ; a result tolerably certain if the method is persisted in. Again, supposing by some stratagem the striking of the arm is avoided, the effort made by the string when released to regain its central position

will cause the arrow to strike against the bow with a 'click,' and commence its flight with what is called a 'kick' or unsteady wriggle—the desideratum being a steady and silent arrow.

That this striking of the arrow on the bow takes place more frequently than archers are aware of may be seen by a glance at the arrows in use. If the hold of the bow is correct, an arrow which has seen much service—and ladies' arrows especially get through a good deal of work—will have the paint and polish on the side next the bow, and in the region of the feathers, unscratched; if, however, the bow and the string have been struggling in different directions, not only will the paint be scored, but very often the arrow itself will be worn for some inches till one side is almost flat. The loose is commonly blamed for this work of spoliation: 'when in doubt blame the loose' is rather a common failing amongst archers. If the fingers quit the string unevenly, the third finger, for instance, remaining on the string after the first and second are clear; or if the arrow is pinched so tightly between the fingers that it bends while being drawn, the result is something similar, but bears no comparison in its effect to that produced by drawing the string out of its natural line on the centre of the bow. Some archers attach a pad, or lump of gutta-percha moulded to fit the hand, to the handle of the bow on one side, to fill up the hollow between the bow and the ball of the thumb; if fitted properly, and not too large, it makes a very comfortable handle, and prevents the bow from twisting in the hand.

When the bow has been properly grasped in the hand the wrist should be quite straight, neither turned in nor out; this will be found to give both power and elasticity, and is the position the wrist should retain during both drawing and loosing.

The process of nocking an arrow needs very few words of description. The arrow is drawn from the arrow pocket by the right hand, and laid above the string and across the bow, which is held in a slanting position, so that it rests against the left hand on the bow; the nock can then be pressed home on

the nocking place without any change of position of the right hand on the arrow or movement of the left hand on the bow. If it is found more convenient, the first finger and thumb of the right hand on each side of the string can be used to adjust the nock to the nocking place. That, at least, is one way, and it is probably the simplest and the best, because it avoids any movement of the left hand on the bow.

Some archers use the thumb and forefinger of the left hand to steady the arrow while it is nocked; but it is not necessary to do this, and certainly not expedient if the bow has been properly taken in hand previously, as the hand has either to be readjusted or, as frequently happens, remains in the wrong position which it may have assumed. On no account should the arrow be passed *between the string and the bow*, as the habit is certain to lead to the disfigurement of the bow, by reason of the pile of the arrow coming in occasional contact with it and leaving numerous 'pits' as mementos.

Some modes of nocking an arrow are ungainly and awkward; for instance, when the arrow is nocked at the back of the string, and then turned over till it rests in its proper place; if the arrow fits tight, it is natural that the string will twist also.

Some ladies seem fond of this method, while others 'load' during the interval preceding their turn to shoot, and walk to the shooting-mark at the 'ready'; but as these exponents of the art rarely stoop to such sublunary things as *position*, and generally stoop to extract their arrows from the ground, their plan does not commend itself for imitation.

It is remarkable how many ladies go out of their way to exhibit 'how not to do it,' even with the advantage they frequently have of shooting with those who display a near approach to perfection of style which few men ever attain to. The simplest action, with the fewest movements, is the best, and, no matter what the original style of the archer may have been, if it is shown to be bad, it may be broken through and a new one adopted so readily as to become quite natural and easy, if a little practice and perseverance is expended on the

matter at any odd time. Just do the thing a few times in the right way, and recollect to do the same with the first few arrows when shooting, and after that it will often be found more difficult to go back to the old way than to continue in the new. In taking up the footing, holding the bow, and nocking the arrow, this especially holds good ; but when the strain comes on the muscles, or fatigue is felt towards the conclusion of a 'round,' the difficulty of maintaining correctly a change from a bad style to a good one is naturally much greater.

The arrow is usually correctly nocked with the left hand close to the body, a few inches above the hip, on the left front, and in that position the fingers of the right hand are placed on the string ; the first finger above and the second and third fingers below the nock of the arrow, close to it, but not pressing against it. It sounds very easy, looks very easy, and would be very easy to do if we only had to consider the drawing up of an ordinary twenty eight inch arrow ; but unfortunately we have to let it go again, or release it, and whether the arrow flies keenly and smoothly, or whether it 'wobbles' with a sluggish flight, depends very considerably on the way in which the fingers are placed on the string ; that is, with reference to their coming off it again.

If hands and fingers were all alike, no doubt a fixed rule could be given—what was 'sauce for the goose would be sauce for the gander'—but, speaking generally, the goose far excels the gander in loosing an arrow, which seems to point to the idea that, though ladies' bows are in proportion to their muscular powers, their fingers, being naturally smaller, offer less surface for the string to pass over, and it is more easily got rid of.

There are two ways of placing the fingers on the string, either of which has its exponents amongst good archers. The more generally adopted method of the two is to put the fingers on in such a manner that the string lies straight across them, with sufficient bend in them to bring the tips level. In the other plan the string is in a slanting position, the finger-tips

slanting to match. As the fingers are put on the string with especial reference to coming off again or loosing, it will be noticed later on that both the position and action of the right hand will differ considerably in each case.

Whether we adopt the straight or slanting string and fingers is not altogether a matter of choice, but depends very much on the fingers themselves. If the hand is held up with the fingers extended, and the palm flat, it will be seen that either the first and third fingers are of nearly equal length, or that the first finger is considerably shorter than the third. If the former is the case, either method of holding the string may be adopted; but if the latter, the chances of an even loose are far greater with the string straight. The first finger is the strongest of the three in use; but it is more difficult than would be supposed to get as much work out of it as out of either of the other two.

Unless care is taken, an undue strain will come on the second and third fingers, and one or other of these too frequently breaks down. Very few archers suffer from blisters on the first finger; very many suffer in the second or third, especially at the commencement of the archery season. The ligaments of the first finger rarely, if ever, give way; but many an archer has to lay the bow aside temporarily, or altogether, on account of damage to the second and third.

In placing the fingers on the string, then, due allowance should be made for the shortcomings of the first finger, and if the string is to be straight across the finger-tips the amount of hold of the first finger should exceed that of the other two. When the arrow is drawn up, it will be found that the weight of the bow is evenly distributed on all three fingers; but, unless this precaution is taken *before* commencing to draw, it will be impossible to rectify it when once the strain is on the fingers.

The ordinary leather 'finger-tips' are provided with stops, beyond which, of course, the string cannot be placed; but, as a general rule, it may be taken that half-way between the tips of the fingers and the first joints is the right spot. It is a

mistake to suppose that holding the string as close to the tips of the fingers as possible gives a better loose. It stands to reason that the strain on the ligaments is greater, and also that the fingers must be more bent in order to retain a hold on the string ; the loose may be sharper, but the old rule will obtain, 'what you gain in speed you lose in accuracy.' The string is apt to 'jump' over the curved finger-tips, especially on the weaker third finger ; whereas, if the hold on the string is further on the fingers, they may be held much straighter. When the fingers are on the string, the back of the hand will correspond with the bowstring, perpendicular, or slightly slanting, according as the bow is held. If the slanting position of the fingers on the string is adopted, then the back of the hand must be turned more upwards in order to obtain a sufficient hold with the first finger. In both instances the right wrist must be bent slightly outwards—it will be straight enough when the weight of the bow comes upon it in drawing—both to avoid drawing *with the fingers* and to give greater facility to the loose later on. To speak of drawing with the fingers as a fault in archery may seem to be absurd, but it is really not so. The fingers, as used in archery, are practically hooks, more or less bent, attached to the forearm and elbow, the muscles of which (supplemented by a certain distribution of the weight of the body) furnish the power. If the wrist is turned inwards, the full power of the forearm and elbow is lost, and the fingers are comparatively unassisted ; if the wrist is bent outwards, with the view of coming straight when tension is put on it, the fingers merely furnish the grip on the bowstring, while much more powerful muscles come into play to draw the bow.

If anyone will make the experiment of pulling at anything upon which the three fingers can be placed, first with the wrist turned in, and then with it straight, the difference of power will be *felt* in a moment. In the case of an archer who draws with an inturned wrist, it will be noticed at once that the hand shakes as though the effort was considerable ; whereas, if the wrist is straight, the arrow is drawn up without any outward evidence

of strain. There is another drawback also: when the hand comes to a certain place in drawing, it can go no further, and becomes what is sometimes called 'nailed on,' or fixed, losing, in fact, its elasticity; the only possible loose being a *forward* one, which is fatal to success.

Having now considered the position or footing, grasp of the bow, nocking the arrow, and placing the fingers on the string, we come to the drawing up of the arrow. Drawing, aiming, holding, loosing, being (as was said above) parts of one process, and having reference to one another, can only really be separated for the purpose of description, and it is necessary to bear this in mind, so as not to be misled by their apparent separation. The object to be aimed at, or 'point of aim,' as it is called, is the first thing to be decided on, as it governs the greater part of the proceedings which follow.

This point of aim varies with the distance at which the target is placed. It may be well to remark here that there is no such thing in archery as a 'point-blank' aim. Archers sometimes imagine that when their point of aim coincides with the gold of the target they are aiming directly at it. The eye never looks *along the arrow*, but the pile of the arrow intersects the line of vision, *pointing upwards* in proportion to the distance between the eye and the nock of the arrow when fully drawn.

In the York Round a certain number of arrows are shot at 100, 80, and 60 yards; in the National Round for ladies the distance is 60 and 50 yards. Very few archers can get a point of aim *upon the target* at more than one of the three distances included in the York Round, unless they adopt the perilous course of regulating the elevation by shifting the position of the right hand; but this will be noted later on. Some are unable to aim upon the target at either distance. Two archers shooting almost identically, as far as the position of the right hand goes, and using bows of similar strength, will often vary considerably in the point of aim; the reason possibly being the difference in measurement from the eye to the chin.

At 80 yards the aim upon the target will be most probable; ladies more commonly finding a point on the target at 60 yards than 50 yards. Every archer soon learns from experience the approximate spot which is the point of aim at each distance. The diagram (fig. 178) shows the axis of vision of each eye when directed on any given object. The arrow, when drawn so that the aim may be perfected, should correctly underlie, in its whole length, the axis of vision of the eye nearest to it, either right or left, depending of course on the archer shooting right or left handed. To bring about this result with the least strain on the muscles, it is best always to bear this in mind, and to keep the arrow as nearly as possible beneath this line of vision, from the very commencement of the draw. Ascham said that 'drawing well was the best part of good shooting'; some irreverent persons may say that 'hitting the target well makes better shooting.' But, however that may be, it is undoubtedly the fact that the more truly the arrow is raised and drawn beneath the line of sight of the aiming eye, the more easy it will be found to preserve the correct line in which the left hand, right hand, and point of the right elbow should be. Many archers, from neglecting this method, begin to draw with the arrow pointing some yards to one side of the point of aim, usually to the right; the consequence being that the arrow has to be brought round to the proper direction, either by moving the left arm or body, or both; in addition to this, the muscles, having been brought into play in one direction, have to be suddenly exerted in another just as the full weight of the bow is coming upon

Fig. 178

them : this tends to both loss of power and unnecessary stress upon muscles which will be required in their full vigour during the brief period of holding and in the subsequent loose.

In taking up the position on the shooting-mark, it will be remembered that the body was supposed to be erect, with the weight evenly distributed on both feet. While the arrow is nocked, and the fingers placed on the string, the archer usually bends slightly over the arrow to see that all is correct; the erect position being assumed afterwards, and the head turned round towards the point of aim as far as conveniently may be. Before commencing to draw, let the pile of the arrow, which will probably be sloping slightly downwards, point directly beneath the point of aim, so that when the hands and arms are raised and extended during the draw, they may come up as truly as possible under the axis of vision—we may call this 'Motion No. 1.' Motion No. 2 will consist of a slight alteration in the distribution of the weight upon the feet. The tendency of the resistance of the bow when drawn will be to pull the archer on to the left foot, and also forwards, either or both failings being fatal to good shooting. To counteract this, the weight must rest more on the right foot than the left, and to assist this change the majority of archers bring the body somewhat beyond the perpendicular in the direction of the right elbow. There is no necessity for carrying these alterations of the original position to extremes, as long as the tendency to rest the weight on the left foot is overcome. When the bow is fully drawn, the pressure on the feet, which was uneven at the beginning of the draw, will be found to be nearly equalised.

In guarding against the Scylla of leaning in the direction of the point of aim, care must be taken of the Charybdis of tipping forward towards the toes (fig. 179). This is, perhaps, the most insidious fault which besets archers, for it is one which cannot be seen for oneself, cannot be *felt*, and is so gradual as to be unnoticeable by the casual spectator; and yet it undermines the whole structure built up on the *position*, spoils the loose, increases as the archer tires, and causes many a good man and

true to give up archery as hopeless. There is not much left to us of the 'Book of Jasher,' probably the first book of instructions in archery; still, the marginal reference tells us that the author's name sums up in one word all that has been written

FIG. 179. Tipping over, with elbow down

here on the necessity of the erect position, and a good deal that will follow with a view to maintain it. Jasher, or the upright man—commentators may quibble on the meaning of 'upright,' but from an archery point of view we cannot do

better than adopt the above interpretation, and when we take up our position say to ourselves 'Jasher' (fig. 180).

If we exclude those archers who purposely lean forward in order that the string may clear the chest—they seem to have an idea that this is the only remedy—the root of the evil may be found in the part of the feet upon which the weight of the body rests, viz. the broad part, or tread. This elastic part of the foot comes so much into play in all outdoor exercise and sports, that it is but natural to use it in the footing in archery. A simple experiment will show how this fatal tipping forward originates, and how it may be counteracted. Assume the position described above, with the heels and feet duly placed, and the weight thrown rather more on the right foot than the left, but using the tread of the feet to afford the necessary foothold. If the arms are now raised into something like the position which they would take when a bow is drawn up, it will be noticed that there is a strong inclination on the part of the body to tip forward, even without the weight and resistance of the bow.

Resume the original position, and *brace the muscles at or about the small of the back*, and a great change will take place. First of all, it will be noticed that not only do the *heels* take their full share of the weight, but that a very strong *outward pressure* comes upon each, giving a firm grip of the ground; and when the arms are raised as before there is no inclination to tip forward in the slightest degree, neither any tendency to tip backwards, even without the bow.

Some archers, who are perfectly aware of this, complain that they cannot always carry out the plan, the reason being that, unless *the weight is on the heels*, the muscles of the back cannot be satisfactorily braced. The 'elasticity and ease' will not be interfered with, and the 'firmness' upon which the loose so much depends will be increased fifty per cent. or more.

The 'third motion' includes the actual drawing of the arrow, which is already lying in the direction of the point of

aim, the left hand holding the bow a little above the left hip, the right hand with fingers on the string, and wrist slightly turned out, at the left front. The grasp of the bow is tightened gradually, the lower three fingers especially increasing their pressure on what is the centre of the bow. It is best to try to gradually tighten the grasp till the arrow is loosed, and so avoid slackening the hold on the bow when the arrow is released by the other hand, which is apt to be the case if the full pressure is put on at first. Both hands are separated and raised at the same time, the left hand coming up directly beneath the point of aim; the right hand, right arm, and elbow being raised in as true a line as possible beneath the axis of vision, till the upper part of the forefinger of the drawing hand comes to the jawbone directly beneath the right eye.

FIG. 180. Jasher

There is some little variation here, of course, in the exact position of the right hand; the danger of bringing it higher is the liability to get the arrow outside the axis of vision; if it is lower than the chin, there is a possibility that it may lie inside the line of sight, but much depends on the conformation of the archer's face (fig. 181). A good

rule by which the truth of the line of the arrow may be tested is, that when it is drawn, a glance down the cheek shows the nock directly under the eye. The hand, let it be noted, must be *brought to the face*, not the *face to the hand*, the head being kept as immovable as possible. It is a common fault in archery that, if the arrow is not brought up in a true line, the head is leant over to meet it; ladies especially are very apt to do this. If the head is moved over to one side, the original focus of the sight is altered, and the right eye 'overlooks,' or looks outside the arrow. The head should be held erect and quite still, so that there may be a fixed point to which to bring the hand. If it is felt that the arrow is not coming up true, put it down, and begin again. It requires some determination, but when accomplished is far better than saying—as a sort of apology for a badly shot arrow—'I knew that arrow was wrong.' It is certainly important to have one fixed spot to which to bring the right hand, making all allowance for elevation by raising or depressing the left. It is true that some archers are able to aim upon the target at all distances by shifting the position of the right hand at different lengths; but when the hand has to be lowered till it touches nothing, and has no guide, the method is uncertain and unsatisfactory, it being difficult enough to bring the hand to the *same place* each time, even with some guide in the shape of touch. At the shortest range, in order

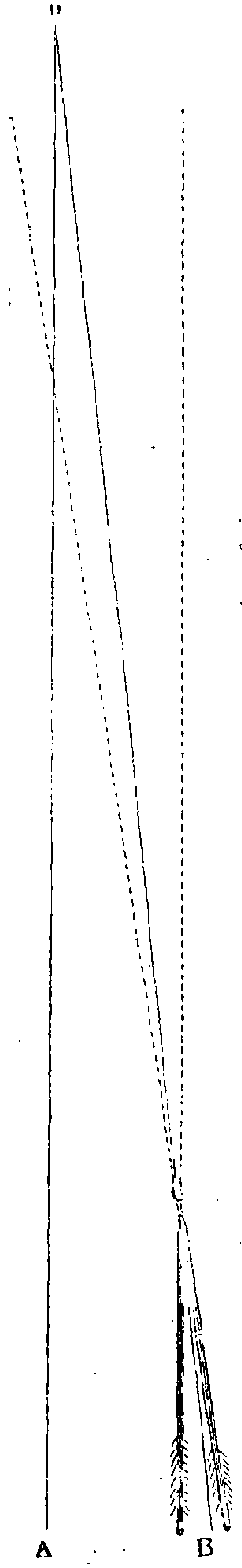


FIG. 181. A, B, the two eyes; D, point of aim

to obtain an aim on the target, if the bow is strong the right hand has to be raised so high upon the cheek that it becomes very difficult to keep the nock of the arrow from coming outside the line of vision. The change of position of the right

FIG. 182. True line

hand, in fact, rarely pays for the trouble of overcoming the difficulties it creates. On no account should the nock of the arrow be drawn behind the eye; the whole length should be in front. Poets, painters, and sculptors talk of or represent

the arrow *drawn to the ear*; but possibly this was the long war arrow, which may have been so drawn in order to secure a farther flight, the direction being left to chance. If the axis of vision is to be taken as the true line in which the arrow should lie in its entire length, to draw it behind the eye and outside the face to the ear would plainly cause it to *point to the left.* When the position of the right hand has been decided by touch against the face, it will be evidently important that it should be brought directly to this spot, so that when the draw is nearly completed any change in the direction in which the right hand is moving may be unnecessary. The right elbow is a powerful factor here; in order to draw with it, it is raised somewhat above the level of the hand, and as the draw proceeds it describes a part of a circle round the shoulder, which at the same time is kept down. When the arrow is drawn there should be a true line from the pile of the arrow to the point of the elbow (see figs. 182 and 185). When the aim is high it is not so difficult to retain this line as when the aim is low. If, for instance, the arrow is pointing to a spot between the archer and the target, the elbow has to be raised a little above the shoulder in order to preserve the line, a position requiring some care and practice to attain. The left arm has, in the meantime, become straight; that is, as straight as an arm can be that is not braced at the elbow. This does not mean that the arm is bent at the elbow, but simply naturally straight without rigidity. It might be supposed that bracing the elbow would give firmness to the left hand; but practically the recoil of the bow will cause a rigid arm to jerk in the direction of the braced muscles, viz. to the left. With a proper grasp of the bow by the hand, a slight upward pressure—a sensation that the hand is carrying the arm—and a firm but elastic arm itself, the recoil of the bow causes little or no ill effect.

If any beginner will take the trouble to go through these various details before a mirror, a great many points will become self-evident. It is not necessary to draw up a bow; it may simply be held in position, with the arrow resting on the hand,

held by the nock between the fingers, as it would be on the string. The right elbow can then be observed, which, of course, cannot be the case in actual practice. When the hands and elbow are level, the *sensation* will probably be that the latter is as high as the top of the head, and that sensation should be remembered. It is not to be supposed that this suggestion is equal in its results to actually drawing up a bow, but it gives an idea of what the proper position 'feels like.' Especial care should be taken that the *shoulders* are kept down and quite still during the raising of the arms. There are two details which have been omitted hitherto for the sake of clearness; first, the length of arrow to be drawn; second, the angle at which the bow should be held.

The usual length of arrow is twenty-eight inches for men and twenty-five inches for ladies; and these lengths suffice for the majority of archers. When the right hand is in its proper place, with the arrow drawn, the base of the pile should just come upon the bow. If the arms are so long that the right hand cannot reach the desired place without drawing the arrow inside the bow, the arrows used should be made longer, or fireworks of a terrifying nature are likely to be provided gratis; that is, the pile of the arrow is apt to jam against the belly of the bow, and fly into any amount of splinters, endangering the hand and eyes, and scattering the nerves broadcast. If, on the other hand, it is found that the left arm is too short to admit of the arrow being drawn up when the right hand has reached its proper position, the question arises, is it better to leave more arrow outside the bow, or to use a shorter arrow? Archers differ considerably in their opinions here. Undoubtedly, a long arrow flies better than a short one, and is also steadier, from the fact that its steering powers, or feathers, are further aft. If the right hand is the guide for the length of the draw, there is no apparent reason why the superfluous inch or so should not project beyond the bow. If the archer looks at the pile of the arrow each time to see if it is properly drawn—and there is no accounting for taste, though the practice is not a good one—

then a short arrow should be used. The second point—viz. the angle at which the bow should be held, upright, or sloping to the right—is perhaps best decided by the natural formation of the hand and arm. If the left arm is extended firmly without either the elbow or wrist being rigid, it will not be quite straight, but shaped with a small curve; a stick or anything grasped in the hand will not be truly perpendicular, but the upper part will slope towards the right. That is, perhaps, the firmest and most elastic position in which the wrist can be held, because it is the most natural.

To produce the perpendicular with anything held in the hand, the wrist must be turned on its ball-and-socket joint; directly, however, the muscles which have been exerted to twist the wrist are relaxed, the original position will be resumed. If this is the case when no strain is on the wrist, it will naturally be more so when the arm is resisting 50 lbs. or so. There is no particular object to be attained by holding the bow perpendicularly, unless it be to enable the string to clear the chest; but this can be usually done by the position of the body, while the clearing of the arm by the string, which is sometimes assigned as a reason, is provided for by the proper grasp on the bow. The natural position of the hand—which will cause the bow to slope a little to the right—is the best, as it avoids any reaction of the wrist from the recoil of the bow. The rapidity with which the bow should be drawn is the last point to be considered under 'Drawing.' It may be safely said that the action should be sufficiently rapid to avoid exhausting the powers unduly, and slow enough to preclude any snatch or jerk. Two strokes of the pendulum of the ordinary 'grandfather' clock will furnish a very good idea of the time to be occupied; but, of course, there is no arbitrary rule. As the arrow is being raised all the while to a close proximity to the point of aim, there is no time lost over a moderately slow draw, as it will be saved in finding the aim itself. The action should be as smooth as possible, so that the tension, which will eventually produce the loose, may be kept evenly on.

If the arrow is drawn up very quickly, in nine cases out of ten it will be released as quickly, probably before the aim is more than approximate. When the draw is completed, the left hand will not have reached the point of aim, and will still have to be raised. During this action the pressure on the string will be apt to be relaxed, owing to the abrupt cessation of the draw, and the arrow will either creep imperceptibly forward, or 'have to go.' When it comes to a matter of nerve, the smooth and steady style will see the other out. A little over-anxiety is certain to increase all the weak points, so that when it becomes a question as to whether the archer or the bow is to be 'boss,' it is well to keep cool and take time.

Aiming appears to have been treated scientifically for the first time by Mr. Ford. Mr. Butt speaks of it somewhat solemnly as follows :—

> The aim is undoubtedly the most abstruse and scientific point connected with the practice of archery. It is at the same time most difficult to teach, and the most difficult to learn, and yet of all points it is the most necessary to be taught.

Before, however, the reader takes off his coat, rolls up his sleeves, and ties a wet towel round his head, in order to grapple with so stupendous an antagonist ; before he runs up the signal 'England expects,' and solemnly determines on either 'Victory or Westminster Abbey,' let him be sure that with the exception of 'necessary to be taught' the remainder is not somewhat overstated. The fact is that *aiming* is simple enough to learn, the difficulty lies in holding and loosing the arrow *on the aim.* There is no necessity to go beyond the most elementary theory of optics, any more than there is to describe the irritable stamp of some archers over a 'good arrow gone wrong' by dynamics, or the metaphorical tears of disappointment by hydrostatics. The aim taken with an arrow is analogous to the aim taken with a gun—not a rifle but a gun, when the object is a 'sitter.'

The mechanical surroundings differ, for in one case there is

the stock of the gun against the shoulder, which tends to keep the weapon beneath the eye and in the same place each time; in the other, this being wanting, it has to be supplied by the *position* already described. The aim, pure and simple, is the same; either the upper part of the circumference of the gun-barrel, or the upper part of the circumference of the pile of the arrow, is brought upon the object aimed at.

Already it has been necessary to allude to the simple fact that the sights of the two eyes meet in a point upon the object directly looked at; but that close to the eyes the lines of sight are separated by the distance between the eyes. The drawing of an arrow from the commencement has been treated entirely with reference to the necessity of the arrow being kept under the line of vision of the eye nearest to it (fig. 178), the right hand, fore-arm, and elbow representing the stock of the gun, to keep this line true.

Mr. Ford made a discovery, though probably the fact he brought to light was known to most gunmakers in the United Kingdom. He shot with a friend, who, in order to hit the target, found himself obliged to aim considerably to one side of it. It appears that, though the arrow was underlying the right eye, the left being much stronger 'took charge,' and regulated the aim (fig. 183). This being a very common state of things should be guarded against. The method is very simple. Hold an arrow in the position described when the proper height of the elbow was to be noted in a mirror, carefully adjusting it beneath the right eye; keep both eyes open, and bring the pile on any object of aim you please; if the left eye is now closed, and the aim remains unaltered, it may be taken for granted that all is well, and the power of sight either even or stronger in the right eye. If, however, the aim is found to be altered when the left eye is closed, so that the arrow points to one side of the original mark, then the left eye is the stronger and must be closed when the aim is taken, or the archer must shoot left-handed. If the sight is even, or the right eye the stronger, both eyes should be

kept open. So much for the pure and simple aiming of an arrow.

The question of *direct* or *indirect* aim then arises. This, again, is not nearly as alarming as it sounds. Most people are aware that when the eyes are fixed on an object numerous other objects are included in the field of vision at the same time; the one object being seen *directly*, the others *indirectly*. The question of direct or indirect aim is, then, whether the pile of the arrow or the point of aim should be the object directly looked at. Sportsmen know well enough that in shooting with a gun at a moving object, fur or feather, to look directly at the gun only would be fatal to success. The gun is seen plainly enough indirectly, but the creeping thing or fowl of the air is the recipient of the direct vision, if not of the shot.

If in archery the aim could always be taken on the target, as is the case in rifle shooting with modern appliances, the eyes could be concentrated upon the pile of the arrow till it and the target were seen as one object; but the aim

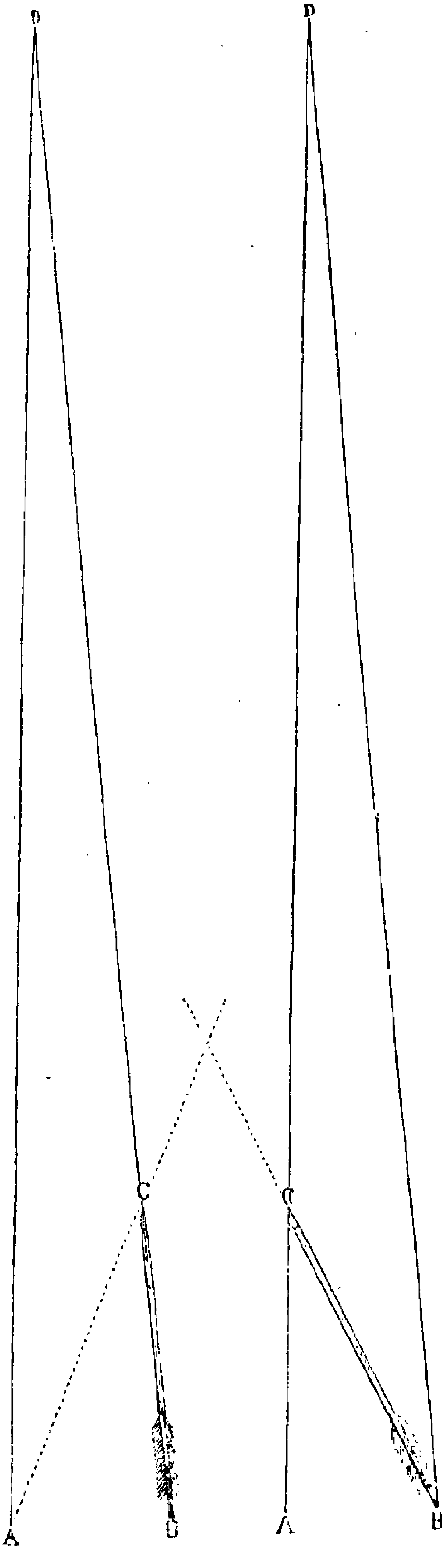


FIG. 183. A, B, the two eyes; C, the point of aim

necessarily varies, and the point selected to give the elevation proper to each distance may be above, below, or upon the target. These points of aim are, however, selected with due reference to the target itself; consequently it is well to see as much of that as possible at the same time that the point of aim is decided on. At one hundred yards, when the aim is usually above the target, the left hand frequently hides the latter when the arrow is drawn. In that case it is decidedly best to look directly at the point of aim before commencing to draw; the target will be seen indirectly while the point is fixed on, and if the target is hidden by the hand as the arrow is brought up, it will make little or no difference. If the pile of the arrow is the object directly looked at, it will be found that the point of aim indirectly selected will often be *lost* when the target, hidden by the hand, ceases to be a guide. This especially holds good when there is what is called a 'sky background,' with no object to select as a point of aim. Fortunately this undesirable state of things is rare, probably for the reason that no sane archer adjourns to the summit of a bare mountain for the purposes of archery; still it does occasionally occur.

If the eye is accustomed to calculate the necessary height above the target for the point of aim, the spot may be approximately determined, even with no object as a guide; but if sought indirectly it will be lost when the hand covers the target. The pile of the arrow will be plainly seen indirectly as it comes up, and the hand will naturally follow the eye. From this it would appear that the best method is to look directly at the point of aim, and indirectly at the target and pile of the arrow, at all events when the aim is above the target. The same will be found to hold good when the target and point of aim are identical, usually at eighty yards. When the point of aim is below the target at the shorter ranges of sixty yards and fifty yards for ladies, a rather different mode of aiming is frequently adopted; the archer looks directly at the gold of the target, and indirectly at the spot which is judged to be the right distance in front upon which the pile of the arrow is to be

brought. Much, however, depends upon the keenness of sight and the distance at which the point of aim lies in front of the target. If, for instance, the point is half way between the archer and the target, owing to the absence of any definite spot on a well-mown plot of grass it is not easy to measure the exact distance each time indirectly, unless there should happen to be some small object by which the point of aim may be fixed. It is the better plan, in this case, to look directly at the point of aim, and indirectly at the target, taking care that the one coincides with the centre of the other. If the point of aim is *close beneath the target*, the opposite may be adopted without difficulty, the advantage being that the aim will naturally be *straight.*

'The fewer changes made, the fewer things to be remembered' is a good motto here and elsewhere in archery; consequently it is safest to *treat all distances alike in the method of aiming*; look directly at the point of aim and raise the pile of the arrow on to it, recollecting to bring the arrow up true, and to keep the right elbow at such a height as will coincide with the straight line of the arrow when aimed—that is, lower when the aim is above the target, higher when the aim is below it. The actual difference in the height of the elbow may be very slight at the various distances, but the change is very important, in order that the right arm, which is doing the work, may be exerting its power along the direct line in which the arrow is lying. To have the elbow too high is a lesser fault than to keep it too low; in the former case, at all events, the right hand will keep close to the face; in the latter it is certain to come away from the face at the loose (fig. 184).

Holding is the short pause during which the aim is perfected and preparation made for loosing or releasing the arrow. Naturally, when the point of aim is above the target the pile of the arrow has to travel a longer distance before it rests on the desired spot than at shorter ranges, consequently in the case of many archers the arrow is fully drawn while still below the point of aim; it has to be held whilst the remaining distance is

made good, and then just for a moment when the upward motion of the left hand ceases. The actual pause should be as brief as is consistent with steadiness, but it is impossible to lay down any fixed rule, because individuals vary so much in 'quickness.' This variation is, of course, equally observable with the gun. No doubt, practice in either case makes up a good deal of the deficiency in quickness, but it will not do away with it entirely, because it arises from constitutional causes. The longer or shorter time occupied in holding depends a great deal upon this quickness, or the want of it; but whatever may be the cause it is well to endeavour to get *as nearly on the point of aim as possible* when the draw is just completed, so that the pause may be very brief. It is at or about this time that troubles begin to arise, and the nerves, already alluded to, commence to try to have it their own way; we are, in fact, on the threshold of the loose, the moment when the arrow is to go for weal or woe. It must not be supposed that this nervousness has anything to do with the importance of the occasion, for when it affects an archer at all it will be found to beset him as much in his own private practice as in a more public competition. There are two phases of the disease, each diametrically opposed to the other; in the one case the archer cannot hold at all—when the arrow is drawn it is bound to go, whether on the aim, or only near it—in the other he cannot loose it when he wants to. That either case may be attributed to a nervous affection of the muscles seems to be proved by the fact that the same person may, in curing one form of the complaint, fall a victim to the other. Let us, however, take courage—both are perfectly curable; in fact, all tricks and bad habits in archery are curable, whether of long standing or not, provided the archer will *take the trouble* to get rid of them. The reason why is the first thing to try to find out. While the arrow is being raised and drawn there has been a gradually increasing tension on the various muscles, assisted by the movement of the hands and arms, and the distribution of the weight of the body; when this tension is at its highest point—

that is, when the arrow is drawn to its proper place—the *movement* ceases, while at the same time the tension has to be kept up for the brief space of time while the aim is steadied and corrected. Brief though it be, that space of time is enough to upset the coach. Unperceived by the archer, the muscles

FIG. 184. A bad loose

have a tendency to relax the moment the movement ceases; those in the back go first, unless they are *kept braced*, the body tips forward directly the sustaining power is lost, and away goes the whole thing like upsetting a tray of crockery down the back stairs. The cause and effect are much the same: it is the first

slip of the 'things' on the tray in one direction which causes them to be 'righted' too much and leads to their destruction in the other, and it is the futile endeavour to 'right' the arrow, with *nothing to do it with*, which makes such a mess of it. The archer, in fact, loses command of the bow just at the very moment it is most needed. The reason, then, for not being able to hold is that there is nothing to hold with, the middle piece of the structure ceasing to be the firm connecting link between the feet and the arms, and so both power and *confidence* are lost. It takes considerable patience and practice to keep the muscles of the back braced, especially when other muscles are merely passive, or are relaxed suddenly as in the loose, but the attempt must be made if any satisfaction is to be got out of archery.

It may be asked, 'If this loss of command of the bow is owing to laxity of muscular power at the wrong time, where do the nerves come in?' Most people are aware that if any person suffers from some muscular contraction, such as a twitching of the face, for instance, the affection is aggravated by certain conditions of the nerves; and it is just the same with a trick or fault in archery.

Supposing we set about overcoming an inability to hold, or, as it is sometimes called, 'target shyness,' we shall find that carefully attending to the proper firmness of position will not be sufficient *at first*; there will be a horrible nervous feeling still that the arrow *must go* directly it is drawn up. Some archers who have got into this state declare 'there is no remedy, they must go on now,' and so on; and yet half an hour will lay the foundation of a happier state of things and effectually break the nervous loss of command of the bow.

If the archer can obtain the good offices of a friend who has no difficulty in holding, the proceedings are very much simplified. Both archers—the 'holder' and 'bolter,' as we may call them—take up their position side by side, and are careful to draw together, the 'bolter's' object being to hold till he *hears* the 'holder's' bowstring released. He will probably hold the

first arrow half the time, the second longer, and the third will possibly be worse than the first ; but after a little practice the 'bolter' will find that he is in danger of losing his title, and the nervous feeling will be rapidly disappearing.

The 'holder' will soon begin to dodge him by purposely holding longer, and at first will derive much satisfaction from the success of his ruse ; but the joy will be shortlived, for before the lesson is finished the 'bolter' will overstay his comrade's longest dwell, and will quietly wipe him out with the remark, 'I beg your pardon, weren't you rather *quick* that time?' If the cure is to be permanent care will have to be taken for some time when *beginning to shoot*, and if there is any tendency to revert to the old habit some other expedients may be needed. These may be necessary in the case of some archer who cannot obtain the companionship of another bowman. Here is one expedient. Be careful to take up the proper position, draw up the arrow, aim it, but don't loose it, let it gently back and take it down ; try the same thing once or twice more, then, when the action becomes easy, endeavour to shoot one arrow *after holding*. Intersperse the shooting with this mode of procedure till you feel that you can do pretty much as you like ; only fix the mind on the one object in hand, taking no heed of the *result* of the shot. Another plan, if shooting alone, is to take a point of aim to one side of the aim proper (when the arrow is known to be pointing wrong there is not so much difficulty in holding), and bring it gradually to the right spot while it is held. This has the disadvantage of the cross movement, but will serve its purpose when the archer feels during shooting that he is gradually getting back to the habit he wants to break ; an occasional arrow aimed off in this way will serve to steady the others. Of course these things really require a trial to prove their efficiency, but the reader may take them as the result of experience, and will readily understand how much *nerve* must have to do with anything which can be rectified by such means.

The second phase of what may be called a nervous affection is an inability to release the arrow.

It has already been said that holding and loosing are really parts of one another; quite half the purpose of holding is to get the sufficient steady pressure which effects the release of the arrow. This pressure has not been hitherto mentioned beyond the statement that when the bow is fully drawn a certain amount of tension of the muscles is required to *keep it so* while the aim is made good. We will revert to this when considering the loose, in order to avoid repetition. It will be, perhaps, best to take this holding of an arrow without being able to release it, when required, under the head of 'Holding,' because it is sometimes the outcome of a determined struggle to overcome the difficulty of not being able to hold at all. To take that case first; the determination to hold at any price causes a firmer grip of the string with the fingers than before, with the result that the draw is principally effected *by the fingers*, with the wrist turned in to assist them. When the hand reaches its place against the lower part of the face, owing to the inturned wrist, it becomes fixed, and the necessary pressure to get rid of the string cannot be brought to bear on it. If the arrow is brought down, and the wrist turned outwards, the elbow and arm will come into play, and the wrist becoming straight by the time the hand reaches the face the difficulty will be removed. If the archer has not had to contend with any adversity in holding, but yet gets 'stuck up,' in nine cases out of ten it will be that inturned wrist which is doing the mischief; and probably in every case the *root* of the evil will be found in loss of command of the bow from precisely the same want of firmness of *position* which causes inability to hold at all. Indecision either way may usually be traced to that, for want of firmness means want of confidence.

One other evil sometimes creeps insidiously in, and helps to cause this nervous indecision, and that is a relaxation of the grasp on the handle of the bow when the movement of the arms in drawing the arrow ceases; it is not a very common occurrence just then, though it is later, but at any rate it should be borne in mind and guarded against.

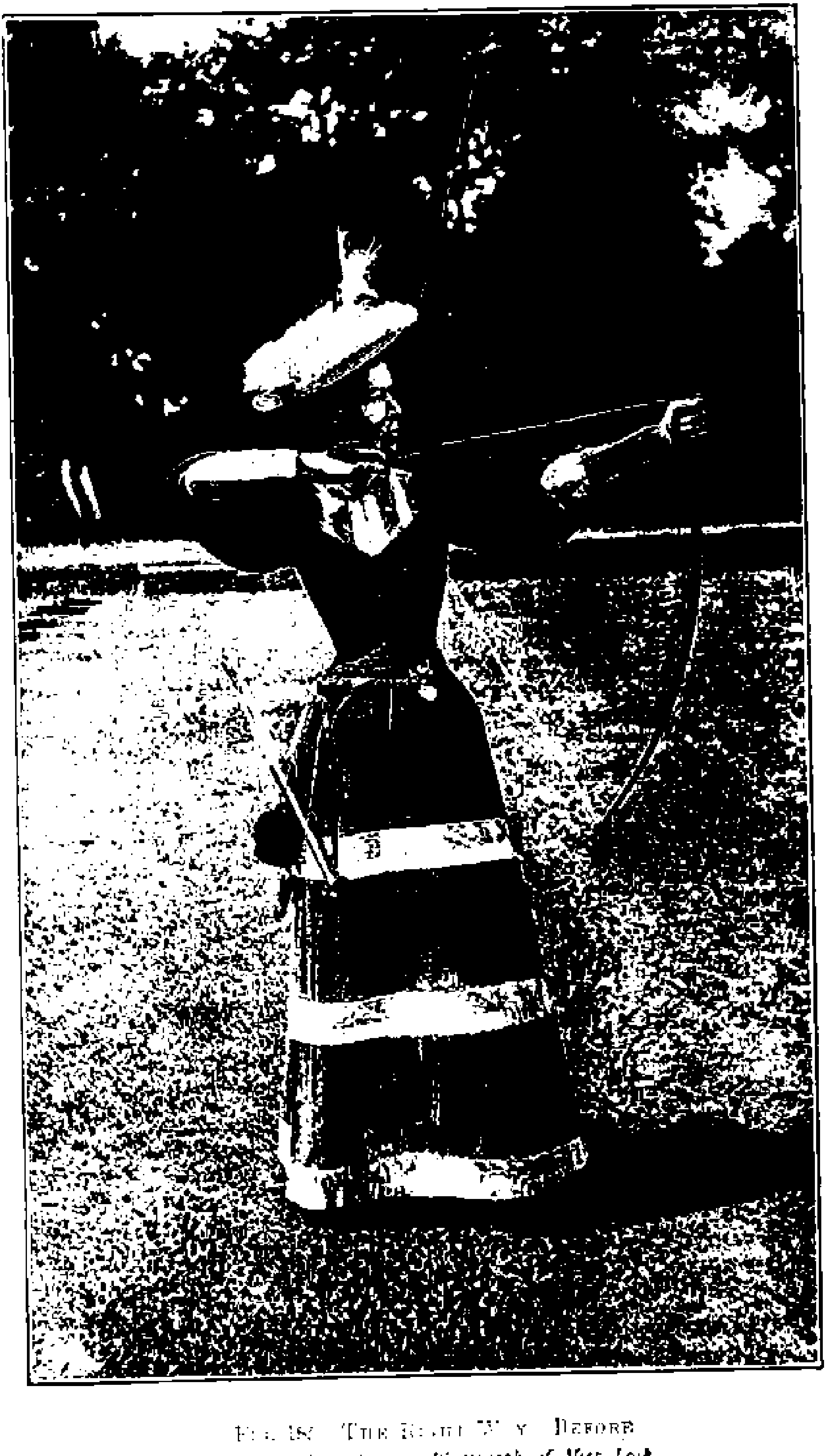


FIG. 18[illegible]. THE RIGHT WAY. BEFORE.

From an Instantaneous Photograph of Miss Legh

[illegible]

From an instantaneous Photograph of [illegible]

If the indecision still continues after the remedies recommended are applied where needed, it is a serviceable plan to get some kindly disposed person who can count up to, say, three, and get him or her to display this attainment *steadily* when the archer has the arrow drawn up ; when the number agreed upon is reached, the arrow must be loosed *somehow.* A very short practice will overcome the nervous 'hitch,' and if the counting is steady and even, it will impress itself on the mind even after the coadjutor has departed. When the normal state has been recovered, the archer will probably wonder why he or she had any difficulty on the point. After all this wandering about it may be well to state again that 'holding' should be as brief as is consistent with steadiness ; that in order to produce this result the muscles of the back should be *kept braced*, the grasp of the bow firm, and the right hand, wrist, and elbow in a true line with the arrow, while the pressure on the string should be slightly *increasing*, in order that it may not be *decreasing*. Unless this latter precaution is taken the result will inevitably be *creeping*—that is to say, owing to the stretching and straightening of the fingers, or relaxing of the muscles, the pile of the arrow will slip slowly but surely *forward*, and will not be loosed from the proper spot to which it was originally drawn. This is, perhaps, the most common fault of all in archery, and one which the archer, looking, as he does, at the arrow foreshortened, cannot easily see for himself. One reason, then—though not the only one—for the additional pressure on the string while the arrow is held is to retain it in the identical place to which it was originally drawn.

In 'loosing' or 'releasing,' we have the real jam at the bottom of the pudding. 'A beautiful loose,' 'a good loose,' 'a keen loose,' 'a dull loose,' 'a bad loose,' 'a wooden loose,' 'a forward loose,' are all terms with which archers are acquainted. All are to be seen on archery fields ; but, though they are mostly recognised, and have awarded to them approbation or otherwise, it is quite another thing to diagnose the *reasons* which make them differ so widely. A forward loose, for

instance, has the palpable *give* from the heels of the boots to the tips of the fingers which renders it plain to the most unobservant spectator; but when we come to the borderland between a good loose and an indifferent one, then the puzzle begins. What, for instance, is the exact movement of the fingers which releases the string? If the action is good, it is so instantaneous that all that really can be seen is the after effect.

To go once more to our old friend the gun. What did you do when one October day that snipe got up before you in that turnip-field—where no one ever saw a snipe before or since—and gave you a snap shot between two low trees in the hedge? 'Missed him, of course; why he——' 'Yes, yes, that's only a matter of detail; what was the exact action of your finger on the trigger when you fired the shot?' 'Well, I don't know; I *suppose*, &c.'

Ask any good gunner who, on account of his skill, has been having 'front seats' all day, 'what he does to get his gun off.' Having first looked at you to see whether 'coming along with the beaters' has impaired your intellect, and then having pondered on some possible 'sell' in the query, and finally coming to the conclusion that you are only hoping to catch his good shooting off him, he will reply, 'Oh! I—well, I suppose—'pon my word I haven't the least idea!'

In fact, the action is so instantaneous that the exponent is utterly unaware of it until something unusual occurs—such as the gun being at safety, or half-cock—when the resistance of the trigger reduces the rapidity to a full stop, and he finds he is *pulling*. There is something very like this in the loose in archery—something that the archer is unconscious of till something else goes wrong. Suppose we try to take it to pieces and look at its works, as we might a watch—only in that case, as a noted archer once said, 'there is always one wheel too many to go back again'—we may find that, or we may not. When the fingers were placed on the string, one of two methods had to be adopted—either the string was to lie straight across

the finger-tips, or it was to lie in a slanting direction; in the latter case the back of the hand had to be turned upwards in effecting the release, so that the fingers might all leave the string at the same moment. The action naturally differs in the two cases. The first of the two is the more common, so we will consider it in that order. The fingers are bent at the tips, so as to obtain a hold of the string. Some archers will tell you that their fingers are almost straight, but as they do not see them themselves this is excusable; no doubt some can draw a bow with less crook to the fingers than others, but still we may safely set it down that some curve is necessary to hold the string. When it is desired to release the string that curve must be momentarily got rid of; but it must be done in such a manner that all the fingers clear the string at the same instant, and do not go a hair's breadth beyond the place they occupied when curved. Now how can this be done best? If we bend the fingers as they would be upon the string, and then extend them, we find they project considerably beyond their original position. The friction, as the string passes over them, would preclude the sharp, clean loose which it is the object of all good archers to attain. Clearly, then, the string must not come off the fingers, but the *fingers off the string*. There are to be found, especially amongst our lady archers, some excellent examples of this, though it must not be supposed that there are none amongst those of the male persuasion. What we see, when the arrow is drawn—and it is very pretty to look at (fig. 185)—is a perfectly true line from the pile of the arrow to the point of the right elbow, the upper part of the right hand just upon, or just beneath, the jawbone close to the chin, with the finger-tips, just sufficiently curved to retain the string, immediately beneath and in front of the right eye; the pile of the arrow quite steady, with no sign of 'creep' or effort while it is held; and then like a flash it is gone, and we hear the thud as it strikes the target. But we don't look to see *where* it is, for we have noticed something else; the position is still the same when the arrow has sped, the left hand holds the bow just

where it did when it was drawn, the right elbow and arm retain the line, the right hand is close to the face, but it is *further back* by about the difference between the curved and straight fingers, and those fingers are in some cases *closed on the palm of the hand;* in fact, they have come back off the string, which accounted for the peculiar 'thup' that we heard when the arrow was loosed (fig. 186). We look at the lady's next-door neighbour perhaps—if it is at an archery meeting—and we notice at once the right elbow below the shoulder, the body stooping over the bow, the arrow creeping all the while it is held, and when it is released the left hand drops like a pointer to a shot (only he didn't use to till 'down charge' had driven every bird out of the field), the right elbow comes forward, and the right hand with outspread fingers reminds one of the well-known picture beneath which is written, 'Dr. Livingstone, I believe!' (fig. 187). Then we go metaphorically to the refreshment tent to ponder on 'what has caused this great difference, especially at the crucial point of the "loose," between these two individuals who apparently were equally capable of handling a bow?'

In a short time, when the archers have passed over to the other end of the ground, we have the opportunity of again observing the style and position of the same ladies, with this difference—that we are further from them and their backs are towards us. And here it may be noted that in attempting to assist a friend out of an archery difficulty, it is often of great advantage to obtain a more general view of the shooter from a little distance, or from the opposite end of the ground, as the whole action is more easily taken in. We shall probably see then that the one lady carefully takes up her footing before the arrow is nocked, and that when it is drawn a perpendicular line let fall from the right shoulder would come beyond the right foot, while the right elbow—which at a little distance we can gauge on some point beyond—retains its position when the arrow is loosed. In the other case footing is evidently little thought of, and such position as there is is shifted every time an arrow is shot, and sometimes when the arrow is nocked

—in fact, it is *never the same*. The left hand drops more perceptibly than it appeared to do when observed close at hand, and the right elbow describes a part of a circle downwards at the loose. Then we cry 'Eureka!' and are eyed suspiciously by a policeman, who ought to be preventing spectators from

FIG. 187. A presentation copy

passing behind the targets, but rarely performs that duty: no matter! we have learnt something. Some may say now 'it's all nonsense,' but the fact remains notwithstanding that the lady whose shooting is so true, so easy, and so neat is loosing as much with her *feet* as she is with her *hands*. This will account

for the state of things which occurs to most archers, viz. that one day arrow after arrow will be shot with the greatest ease and regularity, while the next day perhaps the whole thing is a fight and a struggle.

It must not be supposed that in saying this the being physically 'off' is ignored—that state belongs occasionally to gunners, cricketers, billiard players, and all sorts and conditions of men who undertake anything which requires the conjoint use of hand and eye—but the fight and struggle business in archery may occur when the archer *feels* like shooting a good round, and we may depend upon it then that something in the position has gone wrong. Nothing is so easy as to get out of position, unless it be to keep on with it without finding it out. Those *muscles of the back* depend on the *feet*, as has been shown ; and that additional pressure on the string, to bring off the fingers smoothly and evenly, depends on the elbow and forearm at one end, and the firm grasp of the bow and steady, but unbraced, left arm at the other ; these again depend on the muscles of the back, and so the loose may be said to *belong to the feet as much as to the hands.*

With regard to the additional pressure over and above that required to actually draw the arrow up, to counteract the giving or stretching of muscles, and to bring the fingers off the string when required, an archer of considerable note once defined the *feeling* as that of 'drawing the arrow about one-eighth of an inch further' ; as he remarked, 'it will not really come back, but then it won't go forward, which it otherwise would.'

To show how bringing the fingers off the string in a continuance of the true line of the arrow tends to the latter's straight flight, the style of shooting on what is called the 'continuous draw' may be noticed, but for that purpose only. By a 'continuous draw' is meant a steady movement from first to last, the loose taking place upon the draw without any pause. It must not be confounded with the before-mentioned fault of not being able to hold, for where the style is adopted there is a good deal of steadiness about it. Some ladies have

made and do make very creditable scores in this way, the elevation at their short ranges being more easily attained. The flight of the arrow is nearly always straight, but the uncertainty of elevation, especially at the longer ranges, outweighs that advantage. The pile of the arrow is always receding from the point of aim up to the moment of loosing, and this has to be rectified by the continual raising of the left hand. In some cases the arrow is drawn more or less each time, according as the point of aim is reached quickly or slowly ; in others, where the right hand becomes the guide for the length of arrow to be drawn, the irregularity of elevation is owing to the left hand being raised unevenly. The direct flight of an arrow shot in this way is, however, a proof of the necessity of the pressure which enables the loose to be carried out being applied in a direct line with the arrow, and in an opposite direction to its flight.

When the fingers were placed on the string, it will be remembered that they were adjusted with reference to their coming off again evenly. The first finger is the one which is most likely to loose its hold during drawing, and therefore to come off the string first, leaving an unnecessary strain on the second and third, and causing an uneven loose, tending to send the arrow to the left. The importance of the first finger may especially be noted in shooting at sixty yards ; here, owing to the low aim, the draw, and so the loose, is somewhat higher—that is to say, it has to be in continuance of the line in which the arrow is lying. To carry this out well the first finger should bear the principal weight of the bow. Of course it must be understood that this only refers to special care being given to the adjustment of the first finger ; the wrist, arm, elbow, body, and feet, as has been stated, really doing the work.

There is, however, a little more yet—we have got to be prepared for the recoil of the bow, which is simultaneous with the loose. So simultaneous is it that in many cases the effect is marred by the result of the loose affecting the loose itself. The tension is suddenly removed from one set of muscles, and

has to be retained by others. For instance, the right hand and arm are suddenly freed from the weight previously sustained, while the left hand and arm have to retain the grasp on the bow, and withstand its recoil. It requires considerable patience and practice to tighten the left hand while we slacken the right—in fact, we want to form the *habit* of doing it, for it is fatal to good shooting to have to *think* of these things at the time.

To endeavour to retain the position exactly as it was just previous to the loose for a second or so afterwards will be found of great assistance, as it will serve to guard against three things, which otherwise are apt to become part of the action of loosing—viz. the dropping of the point of the right elbow, the dropping of the right hand from the face, and the dropping of the bow hand (we might add as a probable result the 'dropping' of the arrow) (fig. 184). To carry this out with ease and comfort we need only remember not to loose the muscles of the back at the time the arrow is released ; those being retained *in statu*, the remainder will be comparatively easy. If those muscles are firm, the right elbow can be kept up ; if the elbow is kept up when the fingers come off the string, the right hand will remain in its proper position. If those muscles are slacked, the elbow will come down, bringing the hand away from the face either outwards or downwards, causing the loose to be *anywhere* rather than 'in the direct line of the arrow, and in the opposite direction to its flight.'

It is but natural that when a person has been holding out a considerable weight in the position of an animated signpost that he or she should resume, as soon as possible, a normal position ; it is, however, almost incredible how soon the trick may be learnt of doing this just half a second too soon.

It is a very beneficial practice for any archer, old or young, if the loose becomes 'hard,' or wrong in some way or another, to stand at any distance from a target at which an arrow aimed at the gold *cannot possibly hit it*, and then, careful of position, to shoot successive arrows with one fixed purpose,

viz. *to loose them well* upon the point of aim. As the arrow can be seen to fly true or otherwise it will be a sufficient guide to *direction*, and there will be nothing to take the mind off. As every archer knows, a good hit more or less condones a bad arrow, a miss causes disgust; therefore, always try to remedy faults where you *cannot* do the one and *must* do the other.

The second style of loose, viz. that which follows the placing of the fingers on the string in a slanting direction, is extremely pretty in appearance, and effectual in its results, if carried out well; the quickness and keenness are undeniable, and yet, for some reason or other, it finds few *practical* admirers in the archery world. Major Hawkins Fisher—whose name is so well known amongst archers, both from the success he has achieved and the manner in which he has achieved it—is *the* exponent of this method of release, insomuch that by many it is known as the 'Fisher loose.' It is remarkable that with the amount of dodges and fads to be found in the variety of styles extant this attainment—for it is nothing less—should be so conspicuous by its absence. In itself this mode of release presents no great difficulty—that is to say, as far as quitting the string in this manner goes; most archers who try it can do it after a fashion, but as a rule they find they fail in sufficient regularity to allow of its adoption.

In placing the fingers on the string it was remarked that if the first finger is much shorter than the third this release is almost impracticable. It is often the case that the second and third fingers of the drawing hand are rather longer than those of the bow hand, and this is no doubt the result of shooting; these, again, are the fingers which too often go amiss. In Major Fisher's case it is exactly the reverse; the first finger of the right hand is very little shorter than the third, while in the left hand the third is the longer to a considerable extent. From this it would appear that the tension of the bow has elongated the first finger after constant use; and so we are let into the secret of 'the proper way to do it.'

Many archers are under the impression that too much first

finger causes the hitches and jumps which sometimes beset their loose, whereas it is the weak third finger which is apt to come late off the string. Major Fisher's finger 'tips,' which have seen many a 'tented field,' bear the indelible marks of the bowstring, and as no one possesses a smoother, quicker, and keener loose than he, may be taken as conclusive evidence. The 'stops' have all been removed, and the groove made by the bowstring in the first finger tip begins at the *inner edge of the leather*, and slopes till at the opposite side it is not more than midway ; the second finger tip has a groove commencing about midway, and continuing the same slope as shown on No. 1 ; No. 3 is grooved near the end of the finger.

If we consider what has to be done we can easily see why this should be so. The back of the hand, as has been noticed already, is turned somewhat upwards during the draw and while the arrow is held, everything else being as described before. When the release takes place, the right hand not only comes a little back, but is turned sharply upwards without losing its touch of the face ; in fact, it pivots on the first finger, so that the fingers which are inclined to hang are cleared from the string at the same instant that the first finger leaves it. To do this well, the hold of the string by the first finger must evidently be much greater than is usually the case in archery ; and probably the reason why there have been so many failures in trying to copy this method is that this hold has been too slight to allow of the hand being turned upon it. Another difficulty is in keeping the hand against the face when it is turned upwards ; it is so apt to come away in the direction in which it is turned.

An advantage in this method of release is that there is a certain little decisive action to be taken at the moment when the arrow should go, which tends to keep on the necessary pressure till that moment arrives.

It would be easier for a beginner to learn to loose in this manner at first, as there would be no danger of that common

result, viz. falling between two stools, which sometimes follows the attempt to tack a new style on to an old one.

These details of some of the practical points of archery may be suitably concluded by an allusion to the very common failing of dropping, or lowering the left hand when the arrow is released. It arises partly from the recoil of the bow, and partly from a desire to get rid of the obstruction caused by the hand when the point of aim is high. Of course, if it takes place when the arrow is *gone* it can make no difference; but if the movement is made at the time the arrow is released, it not only spoils the loose, but is apt to make the arrow drop short, because it is not loosed *on* the point of aim but below it. It is a very insidious fault, and the archer is frequently unaware of it. It may, however, be readily detected by observing the position of the left hand when the aim is taken, and after the arrow has been released. If the determination is made to try to keep the hand on the same spot *after* the release of the arrow that it occupied *before*, the habit of doing so may be easily formed without the necessity of thinking of it at the time; the difficulty is when the archer is unaware of the failing.

There are one or two points beyond the actual manipulation of a bow which are worthy of consideration as tending to good shooting, or the reverse. One of these is being over-bowed—that is, endeavouring to shoot with bows which are beyond the archer's proper command. It is one thing to be able to draw a bow up, but quite another to release it properly.

The endeavour to get a lower point of aim at a hundred yards is frequently the inducement to attempt to shoot with too strong tackle. Archery is just as much a matter of training the muscles as any other sport, pastime, or work requiring their use; and we add to this the point already noticed, that in archery the muscles of the hands and arms especially are used in a manner to which they are unaccustomed. At a public meeting some years ago a young archer, who had every intention of 'setting the Thames on fire,' was holding forth on

the absurdity of attempting to shoot at a hundred yards with a bow under 56 lbs. in weight, being evidently under the impression that all men were constituted alike. Mr. Ford, who happened to overhear this lecture on archery, patiently awaited its conclusion, and then remarked to Mr. Coulson, 'Tom, if these young men had brains equal to their biceps, where would old fellows like you and I be?'

All archers of any experience are aware that they cannot commence the season with the bows they handled so easily just before they put them aside for the winter. The beginner is, however, not aware of this; he sees someone making good shooting, and at once inquires about the strength of the bow used, taking it as a matter of course that the bow is the secret of the shooting. It is a good rule to use a bow which can be handled with ease, and at the same time will offer sufficient resistance to enable a good cast to be got out of it. The cast of a bow—that is to say, if it is a good one—depends very much on its being adapted to the muscular power of the archer at the time. At the beginning of the season, for instance, a light bow will be found to meet requirements which it will not fulfil later on when the muscular power becomes more developed; and, *vice versâ*, a stronger bow, surrounded by the halo of its successes at the back end of the previous year, if taken in hand too soon brings disappointment. Too often the bows are condemned as having 'lost their cast'—the truth being that in one case there is not sufficient resistance to enable a good release to be effected; in the other, either the bow is not properly drawn up, or is too strong for the muscular power possessed by the archer at the time.

Few men need use a bow of more than from 48 lbs. to 52 lbs. The wisdom of adapting the bow to the muscular power seems to be shown by the fact that a man cannot get the same cast out of a lady's bow of, say, 30 lbs. that the lady herself can: what is wanting is sufficient resistance. Archers who change their bows at the various distances—and the custom is a very usual one—often find a

difficulty in releasing a weaker bow after using a stronger one, the variation of resistance having to be overcome. As, however, bows vary considerably in their cast, owing to the quality of the material of which they are made, even though the 'pull' or weight is very similar, it is well, when practicable, to use the duller bows at the shorter lengths, and so obtain, as nearly as possible, the same resistance for the release.

Too much shooting—that is, either shooting for too great a length of time or too frequently—is another drawback to the beginner, and seasoned archers sometimes suffer from the same cause.

It is a very pardonable mistake to make, especially on the beginner's part, for it usually springs from a desire to escape from the bonds of mediocrity and to climb the ladder which leads to success.

Archery possesses an indescribable attraction, which is, unfortunately, not felt by all those who handle a bow; and it is possibly for this reason that so small a legacy of archers has been left us by the general popularity of archery which was to be found thirty or forty years ago. Hundreds of archers in those days never emerged from the first stages of muffdom; and if we look at the records of existing societies in the present day we shall find that the same thing obtains. When, however, the attraction is felt, the disease is apt to be deep-seated. The kind assistance of some friend in giving practical hints throws a new light on archery; and the marked improvement which takes place gives such an additional interest that a beginner is very apt to overdo the shooting with the object of progressing more rapidly. No crew can 'row the course' every day without going to pieces; and no archer can shoot a York Round *daily* with benefit. Two or three times a week is ample work to keep the muscles in play, especially if the precaution is taken of shooting two rounds on consecutive days at the height of the season. If there is some special fault to be eradicated, it is better to shoot for half an hour, at any distance, with that fault in view, than to shoot a whole round, when probably

from fatigue, or some other cause, little or no progress will be made.

Never shoot in rough weather if you can help it. Never shoot against time. A round, to be shot satisfactorily, should take from two hours to two hours and a quarter. If there is not plenty of time, shoot half of each distance. Archers who hurry through a round are nearly sure to be 'bothered' by having to wait when three or four shoot at the same target. Ladies will find from forty-five minutes to one hour ample time for the practice of their round. A round with a break between the distances, when practicable, is of more value as a *test* than one shot right-away.

ANALYSIS OF THE FOREGOING

The Standing or Footing.—Take up the footing with reference to the object to be aimed at—feet eight or nine inches apart, firm and comfortable, at such an angle as may be natural to the individual, the direct line to point of aim passing through the heels; the shoulders as nearly as possible in the same line; the body erect and easy, legs straight at the knees, but the knees not braced back.

Nocking.—The bow to be adjusted in the hand between the second knuckle of first finger and ball of thumb, and perpendicular through the hand. The arrow to be always brought *over* the string, never passed underneath, for fear of damaging the bow with the pile, and carefully adjusted on the nocking place. Fingers to be placed evenly on the string, with special care that there is enough first finger close to the nock of the arrow, but not close enough to pinch it later. The right wrist bent a little outwards; on the left front the left wrist straight, in its natural position, just above the left hip; the pile of the arrow pointing in the direction of the object to be aimed at.

Drawing.—Body erect, and head turned towards the point of aim. Weight of body transferred more on to the right foot than left, and more on the heels than the tread of the

feet. Muscles of the back braced, and the grasp tightened on the bow. Both hands raised and separated evenly, and under the axis of vision of the right eye, the right forearm and elbow coming up as much as possible under this line, the pull being effected by this part of the arm, the shoulders to be kept well down. Draw till the pile of the arrow comes on to the bow, and the right hand touches the lower part of the face near the chin, directly beneath the eye. The hand to be brought to the face, not the face to the hand. Get as nearly on to the point of aim as possible by raising the left hand steadily but quickly while the foregoing direction is being carried out. Be sure to keep the right elbow up and back, so as to preserve the true line.

Aiming and Holding.—Complete the aim by bringing the pile of the arrow on to the point of aim, and steady it for a second, *keeping the pull on all the time.* Be careful to keep the body erect, so as not to tip forward, by keeping the muscles of the back braced, and the weight as much on the heels as possible. Take all care not to let the arrow 'creep.'

Loosing.—Tighten the grip of the left hand on the bow, so that both it and the muscles of the back may not give when the arrow is released. Keep the right hand tight to its place against the jaw or chin, and endeavour to bring it just sufficiently back when the actual release takes place to compensate the momentary extension of the fingers. In doing this be careful to keep the wrist straight and elbow up, so that the hand may not leave the face and the true line, nor drop down, nor follow the string, be it ever so little. When the release is accomplished keep up the bow-hand for a second after the arrow is gone; retain the right hand in its place, and so the arm and elbow, then ease up preparatory to nocking the next arrow.

N.B.—Don't dive the right hand for this in a hurry, or the result will be a continual change of position and taking it up afresh. It is an ugly, though prevalent, trick at the best.

CHAPTER XXI

LADIES' ARCHERY

By Alice B. Legh

'Archery? Oh, that's something to do with bows and arrows, isn't it? I have seen people playing with them, trying to hit a target thing; easy enough, but they are very stupid at it!' Such remarks as the above are sometimes heard, but needless to say, it is only the uninitiated who talk thus. We archers know that it is no child's play trying to hit the target thing. It is the very difficulty of hitting that round target with its bright and open countenance that makes archery so engrossing. It stands there, sixty or fifty yards from us, seemingly quite stationary; but the nasty way it has of dodging one's arrows must be experienced to be understood. However, the bump of destruction is so largely developed in true archers that they persevere in their efforts to damage it; it appears to mock them, and its large gold eye is the part they most desire to spoil. Learned and competent students of archery will tell you, better than I can, of its history from earliest times to the present day. How the women of Persia enjoyed shooting in their private gardens: how an Eastern monarch of the seventeenth century had a bodyguard of a hundred women who accompanied him to the battlefield as well as the chase; and of royal ladies of England who were provided with the necessary implements, and no doubt used them. Men have shot with bows and arrows in all ages, but they were not commonly used by ladies till comparatively modern times. I believe that all thanks

are due to the Royal British Bowmen for introducing archery as an amusement suitable for ladies, and they took to it very kindly; no doubt, delighted to have something to relieve the monotony of the daily round of needlework, harpsichord, and still-room mysteries. Cannot you imagine what trouble arose in consequence? how some of the strait-laced old ladies looked on, or perhaps turned away their heads that they should not look on, at the innovation, bemoaning the spirit of independence that was abroad amongst the maidens of the day, and their unladylike behaviour; how they called it the thin end of the wedge. And then think if those good old ladies could only see how far the wedge has now been driven in—maids and matrons taking part in nearly all the manly sports and pastimes of the day. Nevertheless, archery has advantages over many amusements which render it specially suitable for ladies. No hurried movements or violent exertion, no ungraceful attitudes or contortions, are necessary; it need never be anything but quiet, graceful, and ladylike. And also there is no restriction as to age; young, middle-aged, and old can all shoot in some form or other if they have bows suited to their strength. For delicate or growing girls it is a most healthy exercise, taking them out into the fresh air; they *must* hold themselves upright, and their chests are expanded in drawing up. It is a gentle and elegant amusement for young ladies, and most suitable to the matron who feels it undignified to take part in some outdoor games and yet is quite young enough to enjoy them.

Even quite old ladies can shoot, and shoot well too. In fact, as long as you possess one eye, two arms, a fair number of fingers, and one leg to stand upon, you can shoot; and though your infirmities may prevent you from becoming very proficient, still you can always shoot enough for your own enjoyment, and it must be delightful to feel that you can still be an archer, though the pleasures of tennis, golf, &c., may long since have been over for you.

One of the great charms of archery is its independence;

you are not obliged to get three or four friends to come and make up a set, as in tennis; you can go out and shoot a round or so, with or without a companion. Some prefer to have a friend with whom they can chat as they walk from target to target, and so enliven what is thought to be one of the drawbacks of archery, viz. having to walk to the other end after shooting only three arrows.

They find they shoot better when they can compare their score with someone else's, and it is more exciting to shoot a match than to do the round as a constitutional. Others do not feel the need of a companion, the pleasure for them lies in the fact that they can shoot alone; no one to disturb them with laments or notes of exclamation. If they shoot badly, it only affects themselves. As they go from end to end they can think their own thoughts and go their own pace; and there is something very soothing in taking your pleasure as you like it. I do not think shooting always by yourself is conducive to making a good score; you are apt to become careless, or to contract some bad habit which a companion would detect and warn you of. But I think that those who shoot by themselves, and enjoy it, derive more pleasure from their archery than those who are dependent upon having someone with them. What a boon their bows and arrows are to many living in quiet country places, with no near neighbours! They get their exercise and the fresh air, with a little excitement thrown in; if they are interrupted for a time, they can continue their round from where they stopped, and perhaps do all the better for the rest.

Another point in favour of archery is, that a dead level is not absolutely necessary for your range, though I dare say many will not agree with me here. The range must be plenty long enough, some few yards over sixty or fifty, as the case may be; but, in my opinion, a perfect ground for ordinary practising spoils you for others that may not be as good as your own. Do we not notice this at the public meetings? At home, some people have good and well-kept ranges, and if the ground at a

public meeting is not equally good, they are completely thrown out and miss arrow after arrow, because the unevenness, or the rise and fall of the ground between the ends, puzzles them. It is far easier to shoot on a level range after an uneven one than the other way about; and archery might become more popular if people would only be content with a moderately good, or even a bad, range, and make the best of it.

As I have said, it is the difficulties of archery which make it so interesting to true archers; but they repel many too. People sometimes try it because it looks so easy; they think a straight eye is everything. They are perhaps very much in earnest, and when fully equipped feel Robin Hoods; but when some learned friend gives them their first real lesson, the enthusiasm is decidedly damped—so many things not to be done, so much attention needed, so many things to be remembered. I have heard it said that there are thirty-five points to bear in mind, from the time you take your arrow from your quiver till you let it fly; but this is rather a strain on the average archer, and beginners had better learn a few practical rules till they follow them by habit, and then other rules and hints can be given.

A great point gained is to have good teaching at first. Always correct a fault at once. If you find you are drawing up carelessly and uncomfortably, or that you are straining your muscles, lower your bow and draw up again; it requires great patience to do this often, but what is worth doing at all is worth doing well, so do not give up because of the difficulties. It is not in the least necessary to contort your body till your anatomy appears to be all wrong; do everything as naturally and easily as possible. Roger Ascham says:—

Standyng, nockyng, drawyng, holdyng, lowsying, done as they shoulde be done, make fayre shootynge. The fyrste poynte is when a man shoulde shote, to take suche footing and standyng as shall be both cumlye to the eye and profytable to hys use, settyng hys countenaunce and al the other partes of hys bodye after suche a behauiour and porte, that bothe al hys strengthe may be employed

to hys owne moost aduantage, and hys shoot made and handled to other mens pleasure and delyte.

Keep your body at a right angle to the targets, quite upright, your head erect and turned towards the target you intend to aim at. Hold your bow firmly with your left hand, keeping your left arm almost straight ; pull up with your right hand till the arrow is drawn up to the pile, ending with your hand pressed against your jaw, on the right of your face. Never alter the position of this hand, whatever the distance you are shooting at. When you have your arrow drawn up and your right hand in its proper place, then take aim by moving your left up or down, right or left, and, having found your point of aim, let off the bowstring sharply and yet smoothly from your fingers, and keep your position, viz. left arm raised and right hand against the face till the arrow has reached its destination —which, I hope, will be the target you aimed at. It takes many words to describe the process of drawing up, but the deed takes a very few seconds, and it is 'a thing more pleasaunte to behoulde when it is done, than easie to be taught howe it shoulde be done.'

A great secret is to be very quiet and rather deliberate in all your movements ; never hurry, never pull up by jerks ; do not talk or move your feet—it will spoil your shooting. Equally fatal is it to be very slow ; you tire yourself, your bow, and occasionally your friends. You can also do yourself harm by too much devotion ; some people make a rule of practising every day, and shoot two and three rounds in a day, and then wonder how it is that they do not improve ; whereas they are really overshooting, weakening their arms and their bows, and having too much of a good thing.

When you thoroughly understand how you should hold yourself while drawing up, it will be found a great help to practise before a looking-glass, with or without an arrow in your bow. Stand before the glass and pull up carefully, over and over again ; see that you are in the right position, and note exactly what it feels like. If you practise in this way till

you are quite at home with your bow, taking aim will be comparatively easy. Most people agree that a good style is abso lutely necessary if you intend to shoot really well. Archers with a bad style may make some occasional very good scores, or even take a good place for a few seasons, but they cannot be depended upon for lasting.

A few words as to costume. I know many lady archers will differ from me on this point. People who take up some outdoor amusement in earnest often think it necessary to adopt a loose and easy sort of dress, not always becoming. Archery is an outdoor amusement, but you need not have your dresses made specially loose or anything out of the common. Of course, flowing ribbons, clouds of lace, and befrilled fronts get in the way; but it is quite possible to shoot well in a fashionably cut, good-fitting dress. Make love to your dressmaker, and explain to her that you particularly wish to be able to raise your arms, bend them, and also to turn your head; and she must be a tyrant indeed if she will not allow you so much freedom! Archery gives you good opportunities for showing off your dress if you wish to, and I think everyone should be careful how they dress at a public meeting. There is no chance of hiding yourself; you must cross the ground, and stand out to shoot in your turn, so that your costume has every chance of being criticised. I was once showing a new outdoor game to a lady who had daughters; she showed her appreciation of it by the remark: 'My dear, how nice! why the girls could wear their best dresses at it!' This is exactly what one can do at archery. Anyone looking on at the 'Tox' on the Ladies' Day will notice that the ladies all take pains to do honour to their hosts by paying attention to their toilettes, and still very good scores are frequently made on that day. This ought to be some proof to us lady archers that good dressing and good shooting go very well together. On a wet day it is certainly difficult to keep up appearances; waterproof cloaks are not becoming, and we can never quite decide whether we will put our mackintosh on ourselves or devote it to keeping our

precious bow and arrows dry. And, apart from the cloaks, there is a damp and dejected air about archers on one of those days when the rain is not heavy enough to drive us in altogether, and yet enough to make us feel decidedly uncomfortable.

There are so many opinions as to what bows are the best for a lady to use, and what length and weight her arrows should be, that one cannot write definitely on the matter. A self-yew bow is generally considered to be the best; a good one will outlast almost any other kind, and the pull of it is so different from that of a backed bow or a bow of inferior wood. A backed bow is often a tough customer to deal with; you have a hard pull from start to finish, and you feel your strength gone before you have reached the end of the arrow. Now in a self-bow, and more particularly a self-yew, you will find it easy and even to pull; but you must pull to the very end of the arrow, for much of the spring seems to be in the last two inches; and its cast is then nice and clean. It is delightful to watch a well-shot arrow from a self-yew bow; it will fly low, evenly, and swiftly. Sometimes a lady is obliged to have her arrows made longer or shorter than the ordinary length by reason of her arms being either very long or very short; as a rule, however, I am sure our shooting would improve if we could make up our minds to use arrows of ordinary length and weight, and stick to one or two bows. If we have several of either to choose from, it is hard to decide which we will use; and after much deliberation we shall probably choose the wrong ones and then blame ourselves, or worse still, those who may have helped us in our choice. One thing to be avoided is using too strong a bow. It is distressing to see ladies struggling with one too heavy for them, though their difficulties are frequently due not so much to lack of strength as of knowledge how to apply it. The fragile-looking often pull a really strong bow with greater ease than those who look well able to do so.

Bows and arrows are, of course, all important in archery; but there are a few other things which the majority of lady

archers find necessary, such as a belt and quiver, arm-guard, finger-tips, tassel, and scoring-book. I should advise archers always to keep their score, more especially when practising; it is most difficult to form a correct idea of how you are shooting unless you do jot it down as you go along. Are you in low spirits? you imagine that you are hitting nothing but blacks and whites, with an occasional red or gold, which is only a fluke after all. Or if you are in a happy frame of mind, all the colours your arrows go into are of a brilliant hue, and the next time you go out to practise you go down in your own estimation. At a public meeting many prefer not to know their score for fear of making themselves nervous; but if you do know how you are getting on, it will save you a shock at the end of the meeting, either good or bad. To some of us archery is a matter of life and death; and we wear ourselves out, mind and body, in our endeavours to hit the centre of the target; but, after all, it is only an amusement, and worrying is quite as fatal in this case as it is in others. I do not deny that it is most aggravating when your arrows absolutely refuse to obey your will; but above all things do not show temper, or rage inwardly. You have some fault probably which must be found out and conquered.

All affections, and specially anger, hurteth bothe mynde and bodye. The mynde is blynde therby: and yf the mynde be blynde, it can not rule the body aright. The body bothe blood and bone, as they say, is brought out of hys ryght course by anger: wherby a man lacketh hys right strengthe, and therfore can not shoote well. (Roger Ascham.)

See that your arrows are true before you go to a meeting—I mean, all true weight and straight. Have them very clean; a collection of dried mud or paint off the target *must* make a difference to their flight. See, too, that your bowstring is sound and well lapped; and, having your implements in proper order, you can go to the meeting fairly peaceful in mind.

An archery meeting on a bright day is one of the prettiest sights you can imagine. The varied hues of the ladies' dresses,

the occasional green coats of the men, and the gay targets help to make up a lively scene. The competitors move about, greeting their friends, and finding out their targets ; you hear laughing and talking, and all look as if they meant to enjoy themselves. There are, perhaps, prizes to be shot for and handicaps to be arranged, which give still more spirit to the meeting. In private clubs the bow or prize days are always looked forward to, a fine day and a good attendance of members hoped for. A great deal depends on the secretary of a club. He must have a certain amount of tact to know how to deal with all the members' wishes and suggestions ; he must keep the peace and yet be very firm, follow out the rules of the club strictly, and make no exceptions, unless for some very good reason. He must make all his arrangements about moving targets, and marking out the ground beforehand, and have everything in good working order before the time for shooting arrives, so that the competitors may find everything ready for them when they reach the ground.

The post of secretary to an archery club is no sinecure, and we are not nearly grateful enough for all the trouble that is taken to secure our comfort and enjoyment. We grumble and find fault for the merest trifles ; we object to the target we have been placed at : we want our tea between the distances, or we don't want it then. Poor secretary ! he has rather a bad time of it.

The Grand National is the great event of the archery season. It takes place about the end of July, or the beginning of August, and is also generally held in a different place each year. All shoot on their own merits at this meeting, so that the good shots take the good prizes ; but there are always several prizes open only to local archers, and those who have not risen very high yet. And these really have the best time of it. To those archers who have to fight for the high honours it is a most serious business, and a very doubtful enjoyment. No one can tell beforehand how they will stand at the end of the two days' shooting. You may take a high

place the first day, you feel elated, and go to bed happy; but, alas! next day your fall may be great, and all the more grievous because of your early success. There may be three or four who are shooting very evenly; oh, the nervousness when you feel that each arrow will make a difference! You long to find out what your adversaries are doing, and yet you are afraid to ask. You know that the eyes of friends and foes are upon you, and you try to imagine that you do not care at all.

I must say lady archers are generally very kind; when they know you have a place in the scores to keep, they will help you all they can by their sympathy, or in some more practical way, careful not to put you out by talking, ever ready to lend or give you anything that may be necessary to your good shooting. Personally, I have always received the greatest kindness, and am most grateful for it. There are, of course, disagreeables to be met with, as in everything; but the agreeables far outweigh them.

There is something very exciting about a public archery meeting, from the time you reach the town where it is to be held. You keep your eyes open for all archers, and often take a turn out 'to see who has come.' If the target-lists are ready the evening before, there is a rush for them: all are anxious to know at what target they are to shoot, and who their companions will be: whether they will find a personal friend among them, and who is to be their captain.

The captain of a target is the lady whose name comes third on the list for each target. Her business is to score for the others, to teach the target-boy his duties, and to keep order generally at her target. A captain, like the secretary of a club, needs to be firm and obey all rules. The ladies shoot in the afternoon; it must be very entertaining to an outsider to watch them arriving. On foot, in cabs, &c., they come with their bow-boxes, arrow-boxes, camp-stools, cloaks, &c.; they go to their tents and begin to equip themselves—at least, the business-like ones do—and when ready go and keep quiet till it is time to begin; others stroll round to talk to all their friends and hear

all their news, almost, and occasionally quite, forgetting to get ready. A quarter of an hour before the time to begin the first bugle, or bell, sounds as a warning, and the second one will find the ladies grouped round their targets. All spare time has been occupied in studying the ground and getting all possible hints from the men, who have been shooting since eleven o'clock. The ladies ply them with questions. 'What sort of a ground is it?' 'Is there any wind—which way does it blow?' and so on. At the second bugle there will be a stir among the ladies; they have been wondering when it would sound, and yet when it does some wish the evil moment had been put off a little longer. Do not all archers know how dreadful is the first arrow? When you have let it off, your heart stops beating till you know where it has gone, and you listen most anxiously for the sharp pat which an arrow makes going into a new target. The judge is very long-suffering and is kept pretty busy measuring the golds. He is constantly being called for; though we cannot all win gold prizes, yet we like to have our names put down, because, as a gentleman archer has said, 'It adds to one's respectability as an archer.' If you are fortunate enough to get your three arrows into the gold, just notice the tremor of excitement which passes down the line of targets—you are the envied of all; every lady competing contributes a shilling towards rewarding you; you are very glad to be the possessor of all the shillings, but it is a humiliating moment when they are put into your hand. Something of the feeling of an impostor comes over you; for, after all, you are being rewarded—for chance shots.

There is a little time allowed for a rest and tea between shooting the two distances, of which archers are only too glad to avail themselves. When the day's shooting is over it is very amusing to watch the ladies comparing notes about their doings; and at the end of the second day the excitement is intense. We are anxious to know what place we have taken, and, much as we may love our friends, we prefer to be above them, if possible.

The Grand National, and some of the other meetings, lasts for three days, but the shooting on the third day does not count towards the prizes of the meeting. All competitors are handicapped on the average of the highest score made on the previous days, and all contribute five shillings towards the handicap prizes. This is often the most enjoyable day of the three; the strain of anxiety has been removed, and success or failure is no longer a matter of such importance.

There is one day in the season to which lady archers look forward especially—the Ladies' Day at the 'Tox.' Ladies are invited by the members of the Royal Toxophilite Society, and from ninety to a hundred gladly avail themselves of the invitation. The ground is a very good one, and everything is perfectly arranged for the pleasure of the guests. Beautiful prizes, a sumptuous tea, and moreover a good band are provided, and to my mind the last-named adds greatly to the enjoyment of the day, whether on the ladies' day or any meeting.

The 'Tox.' ground has also been the scene of matches between ladies and gentlemen, twelve on each side, and very interesting they have proved. The matches have not been held often enough yet to show which are the stronger; and it is difficult to make the shooting fair, as the ladies' longest distance is the men's shortest; but we ladies like to flatter ourselves that we are quite as good shots as the men, and will strive hard to prove it.

The prize-giving at a meeting is rather an ordeal. The secretary and heads of the committee like to keep the ladies at some distance from the table on which the prizes are laid out; because they say it looks more dignified to see the ladies advancing over the green grass to receive their prizes than to have them slipping out from some quiet corner near by. The ladies think differently! We find it difficult to remember our deportment, as taught us in our youth, with many eyes upon us as we cross the grass; and our bow of thanks has often to be made while standing on steps—a position which, I am sure, no dancing-mistress ever took into consideration.

The prizes at public meetings take the form of money. About the desirability of this there has been much discussion lately, and there is a good deal to be said for and against it. No doubt, if the money prizes were done away with, or very much lowered in value, it would be the means of stopping some from competing, and the entries might be fewer; but then, if the prizes did not take the form of money, the entrance fees might be made considerably lower, and that would enable several to enter their names as competitors, especially amongst the young people, who have hitherto been prevented from doing so on account of the expense; and archery might gain many more votaries.

There is something mercenary about receiving money as a prize for doing well at an amusement, and people would surely enjoy shooting for its own sake, even if they only received a small badge as a token that they had been successful in the competition. All archers value the badges given at the National with each prize, and the ambition of beginners is to win a 'spider.' I believe they would sooner have their spider and no money than the money and no spider.

Archery is not a means of making money—far from it. It is a capital way of spending money, and I doubt if anyone, however successful, could clear 10*l.*, after paying his or her expenses, through the season; by expenses I include travelling and hotel bills, as well as entrance fees, &c. I have been credited with making 200*l.* a year by my archery; many might wish that it were possible to accomplish such a thing, but it would change the whole character of archery if you could earn your living by it, and it would no longer have the same interest.

Some people contend that if archers receive money as a prize they are professionals; but it seems to me that they remain amateurs as long as they pay entrance fees and only receive a reward, in the shape of money, if they do well. When archers are paid a certain sum of money to shoot for the amusement of assembled spectators, they may be called professionals; but may that never be the case!

In olden days the bow and the arrow were used as weapons of war, and to kill flesh and fowl to provide food for man, and nowadays they are still put to these uses among savage tribes in different parts of the world. Other and more effective means of offence and defence have sprung up in our enlightened country, but we hope long to keep archery what it now is—not a means of earning our living, or a mere game to be played at, but a good old-fashioned pastime.

CHAPTER XXII

ON THE MANAGEMENT OF PUBLIC MEETINGS

By Colonel Walrond

The management of public meetings of necessity devolves on the secretaries, as, though the committees assist materially in checking scores and making out the prize-lists, they are only available for consultation during the actual days of the meeting, and a great deal of the real work has to be done before the meetings are held.

Every secretary does his work in his own way. One will leave everything to the last moment, and work like a nigger to get it done in time; another will go on steadily, as soon as one meeting is over, preparing for the next. One will fuss the whole time of the meeting, never being so happy as when assisting to move targets, forms, &c., though probably it would be better done if he did not interfere; another will quietly look on, smoking his pipe, and mentally wondering why those last two arrows did not go in, but at the same time watching everything; while a third, having given the necessary orders, lets his subordinates do the work, and, keeping his eye on them, attends to other things. Who shall say which is the best plan? All that will be attempted here is to say what has to be done, and leave each one to work it out in his own particular way.

To begin at the beginning, the secretary must have some sort of notion, at least the day before the meeting, of the place where he thinks he can arrange to hold the one for the next year so that it may be discussed by the committee who meet

on the Tuesday to audit the previous year's accounts, &c. If the committee agrees to his suggestion, he has to find some influential archer in the proposed locality who is disposed to take trouble in the matter, and can give him information generally as to the capabilities of the neighbourhood and ground. Probably he has already sounded someone on the subject, and if the meeting has been held at the proposed place before, he already knows a good deal about it himself. The gentleman upon whom he has pitched will, on his return home, write and tell him what he thinks are the prospects of holding a successful meeting; and if the secretary does not know the ground, he should go and see it as soon as he can.

When on the spot he should look at the proposed ground, carefully noting its size, if it is sufficiently level, and whether the targets can be fixed north and south. This is important, as a range lying east and west is very objectionable, especially in the afternoon, at sixty yards, when the sun is getting low and nearly behind the western target. If the ground is satisfactory, he should settle in his own mind how he will place the ladies' and gentlemen's targets and the tents. He ought carefully to observe what accommodation there is on the ground in the shape of a pavilion, or other building, which can be made available for the meeting, so as to save tent-hire. He should also inquire whether tents, forms, &c., can be hired, and ascertain the charges for them, not forgetting to ask as to police, ticket-takers, boys, and assistants for marking and measuring the ground

His guide, philosopher, and friend (the influential archer), who has possibly undertaken the duties of local honorary secretary, will be able to inform him who are the best persons to ask to be lady-paramount and president (if such officers are required), and patrons. If he has travelled any distance, he will by this time be ready for luncheon, which affords a good opportunity of going to the best hotel, seeing what accommodation can be secured, and while there arranging as to the charges to be made to archers during the meeting.

All this requires care, as it does not do to make arrangements for the amount to be charged for breakfast and dinner, and forget that for beds, or these latter may be put at a fancy price, as was done at one meeting where this point was forgotten. Luncheon on the ground should also be seen to, and as some archers are particular as to their drinks, they should be humoured. Some years ago, when a meeting was held in Devonshire, one archer always made a point of asking that cider should be provided, and it always was, much to his delight, though probably it came from London on purpose. It is best, also, not to entrust the lunch to a teetotal firm, or to a caterer without a licence, for one or two shooters may like something stronger than ginger-beer.'

Our secretary should by this time have got all the information he can, and having impressed on his local honorary secretary the importance of getting local support in the shape of subscriptions and competitors, must before going home settle which of them is to write to the lady-paramount, president, and patrons, to ask them to act.

The date of the meeting is an important point. Local arrangements have to be considered. The ground may possibly only be available for one or two weeks; while the fixtures of the other public archery meetings have to be considered, as it is generally best to have a fortnight between each meeting. This is a matter in the management of which there is room for improvement. Obviously, the proper course would be that the secretaries should consult, and fix the meetings so as to fit them in together; but this is not at present done. Of course the Grand National should have the first choice, and if a consultation took place early enough in the year there should be no difficulty in fixing the meetings so as to suit everybody, and avoid complications.

When answers have been received from the patrons, &c., the circulars can be got ready and sent out like sprats to catch a whale. There is no particular object in sending them out too soon, as they are apt to get lost, and then the secretary is asked,

'Why have I not had a circular?'—his correspondent, when he gets another, probably not coming after all. He must on no account forget to write to the judges, and secure their services; he must also make sure of his clerk and ground-manager, and see that his transfer sheets, target-papers, and the hundred other small items required are ready. The time for entries having closed (post-entries excepted), he must think of preparing his target-list. How this should be done is a question as to which there are two very distinct and conflicting views, both of which will be placed before the reader.

There is at present a good deal of talk as to reform being required in the management of the Grand National Archery Society, and the arrangement of the targets is one of the principal points in dispute. A good deal of this talk is, no doubt, the 'hare-brained chatter of irresponsible frivolity,' but there certainly are many members of the G.N.A.S. who hold very strong views as to several rules of the Society requiring amendment. It is very possible that some beneficial alterations could be made in them, especially as regards the transaction of business at the annual general meeting; for, as at present conducted, it is practically impossible for any real business to be done at it.

The plan adopted at present for arranging the targets is as follows. A list of the competitors is made out in the order of their entry; from this list as many captains as are necessary are selected, and then an experienced archer is chosen to shoot first at each target. The remainder of the competitors are put down in the order of their entry, any two who may have asked it being put at the same target, care, however, being taken that no two shooters of the same name, or two sisters, or a mother and daughter, are at the same target. The opponents to this system say it is not fair: that, as all pay alike, everyone should have the same chance of being first or last, the latter being considered an especial disadvantage; and that the names of all the shooters should be put into a hat and drawn out one by one, the first eight or ten, or whatever the number

of targets may be, shooting first, the next second, and so on; and there is a good deal in this contention.

The reasons given against altering the present system are that the captains must be selected, as they have to score, and he or she *must* be trustworthy, and able to keep the score correctly (instances of errors having occurred); besides which, it is necessary that the captain should score the target at once on reaching it, leaving his arrows to their fate. (As an instance of what some inexperienced captains will do, it may be mentioned that within the last ten years one went through the following manœuvres before he attempted to score. First he picked up his arrows, then he put on his spectacles and took off his tips, and having given his bow and umbrella to the target-boy to hold, he leisurely put down the score, carefully examining each arrow, so that by the time he had finished scoring the other targets had finished shooting.) That the archer to shoot first must be selected, as he should have six arrows in his pocket and be ready to shoot at once on reaching the opposite target, picking up his arrows after he has shot, for otherwise he will delay the shooting, and a slow 'No. 1' is very hard on the last shooter. That some archers take much longer than others to shoot, and it is necessary to arrange the targets so that they may all finish as nearly as possible together. That two good shots, who may be contending against one another, should not be at the same target, and that two of the same name should not be at the same target, as it leads to mistakes in the score. That certainly, as far as the ladies are concerned, the fact of being at the same target with their friends is a great inducement to attend a meeting. That the majority of archers are in favour of the present system, and that to give satisfaction to the greatest number is the best plan to insure the success of a meeting.

The secretaries of the public meetings are unanimously in favour of the present plan, and a proposal to alter it was defeated at a meeting of the Grand National Archery Society by a large majority. The advocates of the ballot are, however, by

no means convinced, and still contend that all archers should take their chance of shooting at any target, or position at a target, by lot. They affirm that, as at some meetings some of the targets may be easier than others, to place any archer at a target, or to shoot in a position which he or she may ask for or prefer, is to give that archer an unfair advantage. While this is the case, they say, archery cannot be considered a properly constituted sport, nor can the Grand National be looked upon as being more than a social function, instead of, as it should be, a championship meeting.

We will suppose the secretary to have prepared his target-list, so as to have as near as possible an equal number at each target, due provision being made for post-entries and absentees. He must then send it to the printers, directing that a proof may be sent to him. When he gets this proof he will probably be delighted to find it contains several new names; but his delight will vanish when he sees on examination that these are only the old ones spelt differently. On the Monday morning previous to the meeting the secretary should be on the ground early, so as to square and measure it. This same squaring is a matter of importance, and should be done carefully, and not more or less by rule of thumb, as is too frequently the case. Nothing is more annoying than to find that your target faces a yard or two on one side of your standing-mark, owing to the targets being placed on the opposite sides of a rhomboid instead of, as they should be, of a rectangle, and on your pointing out the fact being told by some swivel-eyed individual, 'Oh, yes, they don't look straight, but it's the shape of the field does it, you know,' anyone who can see straight being able to tell the difference at once.

To square the ground properly a cross-sight should be used. First settle on the line of targets A B (fig. 189), and run a line along it. At one end of it, A, place the cross-staff; align the sight from A on a rod at B, then measure the longest required distance (plus five yards) to C, putting another line along it, and look through the sight to see that C is at right angles to A B. Shift

the cross-sight from A to C, placing a rod at A. Align your sight from C to A and C to D, and measure the length of your base A B from C to D. If this is properly done the distance B D is the same as A C, and the ground will be square. The other distances can be easily got by measuring them on A C and B D. The place where each target will stand should then be marked on A B with white tape, taking A as the base-point, and placing the first target two yards from it. The targets can be placed at equal distances apart, or in pairs, the latter being the usual and best method; but if he follow it the secretary must

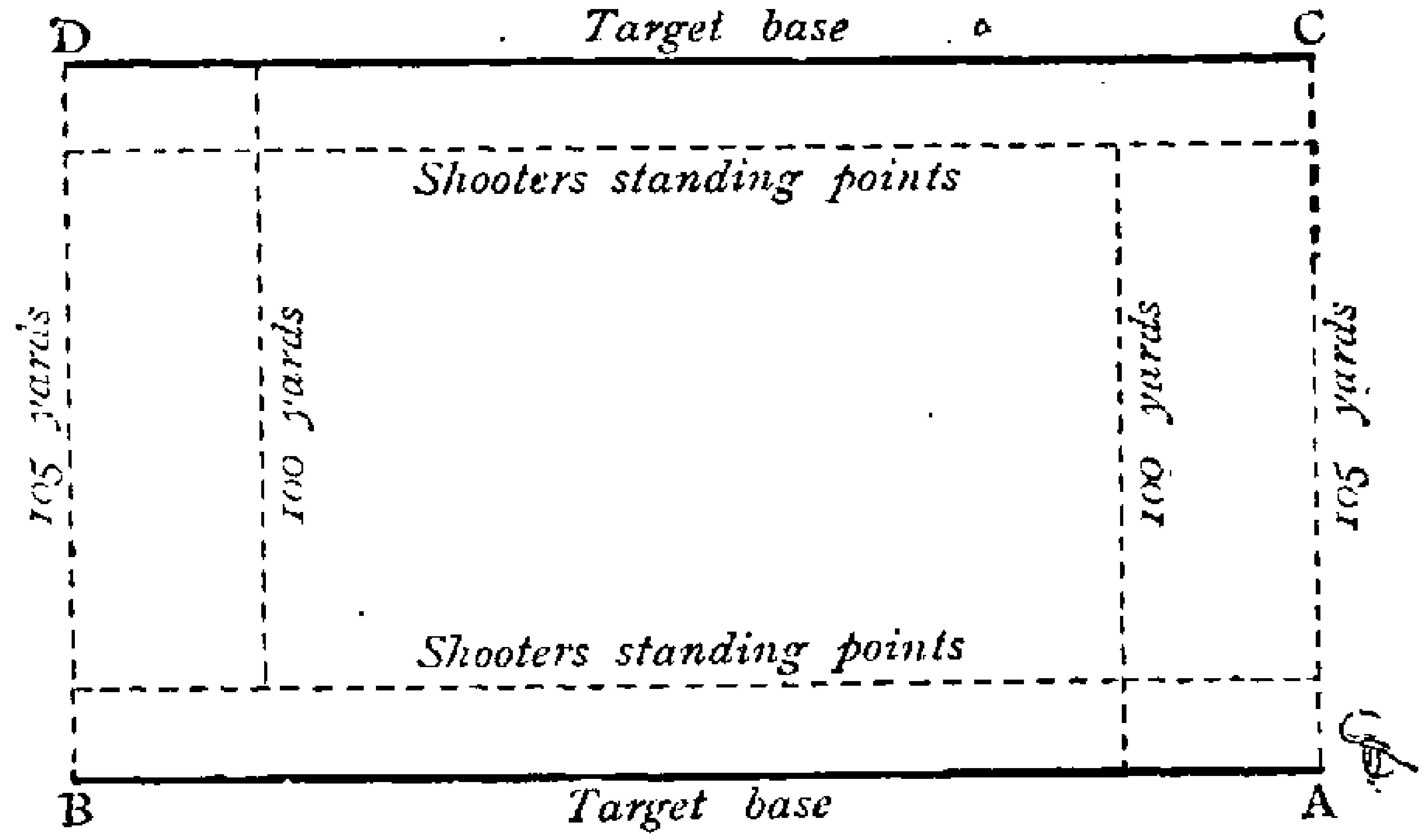


FIG. 189

not be surprised at someone coming up to him with a long face and telling him the targets are not all the same distance apart. If he is quick at repartee he might say, like Soapy Sponge's groom, Leathers, 'That's intended, guv'nor.' Having put in all the target-marks, shift the line which is on A B five yards forward, and put in the shooting-points with red tape, and proceed in the same way for each distance, not forgetting to place shooting-points in front of each base. If the secretary has an efficient ground-manager, it will not be necessary for him personally to do more than square the ground, see that the distances are properly measured, and the base-marks put

in; the rest he can leave to him, and himself attend to the other arrangements, such as seeing that the tents, forms, and furniture will be duly delivered, and that the police, gate-keepers, and boys are warned to come at the right time; besides, he will probably find when he gets back to the hotel that he has a good many letters which require answering.

On the Tuesday the secretary has to mark the centre of the golds; see that each target is properly fixed; that the tents are put in the right place; that the white lines (to keep the spectators behind the targets) are marked; that the target-lists are on sale; and, in short, that everything is ready for the contest to begin on Wednesday. In the afternoon the archers begin to appear, and the secretary must be prepared to issue fresh tickets to anyone who has left his or hers behind, answer questions as to the distances of the ground, and other points. In the evening the first committee-meeting is held, at which the accounts of the previous meeting are audited, the prospects of the meeting discussed, and next year's fixture talked over, the most pleasant part of the day being spent after the committee is over in chatting with friends—some of whom have probably not been seen since the previous meeting—and inquiring as to absent ones.

On Wednesday morning the secretary has to be on the ground early to see that everything is ready, to give the police and check-takers their instructions, and ascertain that the clerk has the target-papers prepared; he should also go round all the tents to see that everything is correct. The gold cards and distinguishing badge of his office have to be handed over to the judge, and the bell or bugle put under his orders, to be rung or sounded at a quarter to eleven, so that the gentlemen may assemble at the targets. If the secretary is himself a competitor, he will probably be left to shoot in peace, with the exception of having to answer a dozen or so silly questions (the replies to which could be found in the circular), and running after the policemen, who will *not* stop people crossing behind the targets which are being shot at. After the hundred yards he should see that

the scores are properly entered on the 'transfers,' which are somewhat complicated sheets on which everyone's hits, score, and golds are copied from the target-paper after each distance, and from which at the end of the second day the prize-list is made out. At 2.30 the shooting is resumed at eighty yards by the gentlemen, the targets having been moved during luncheon, and the ladies come on the scene to begin their four-dozen arrows at sixty. With the ladies spectators begin to appear, and the judge's work gets more arduous than it was during the shooting at a hundred yards.

It may not be amiss here to give a short description of the important duties judges have to perform, for a good judge is an invaluable coadjutor. It is the duty of a judge to measure golds, to keep all archers who are not actually shooting behind the targets, and to prevent spectators coming in front of the white line which is marked on the ground five or six yards in rear of the targets. It is most important that this should be done, as anyone standing in front of the targets is sure to distract the shooters, and the loss of many an arrow can be traced to seeing someone moving just behind one, or hearing some remark made in a loud voice at the moment of aiming or loosing. Some archers have a bad habit of leaning against the front of the target, of which, apparently, they cannot break themselves; and a good judge has plenty to do to keep these in order, both ladies and gentlemen being offenders in this respect. That the spectators should be kept behind the white line is equally important, as generally noise enough goes on without their assistance. It is most annoying to hear 'Judge' shouted in a shrill treble or deep base close to your ear by someone who has got an arrow just cutting the gold, oblivious of the fact that the long-suffering judge is very likely at the next target. Another very objectionable practice (towards which judges are too lenient) is, that when an archer gets a good gold, he or she, and all his or her relations or friends who happen to be within a mile, congregate to see it measured, just as a crowd collects in the streets to stare at nothing—as if the judge was

likely to be assisted in his task by being half-smothered before he begins it. They never think of the annoyance they are causing to anyone who happens to be shooting two or three targets off; but perhaps this is not to be wondered at, as the offenders are generally, though not always, players with a bow and arrow rather than archers. The judge should also know all the rules governing various possible contingencies, so as to be able to give a decision at once; and he must see that no one advances beyond the line of targets till everyone has shot.

To resume where we left off, or rather supposing that the ladies and gentlemen have finished the eighty and sixty yards while the last paragraph was being written. At the end of these distances the secretary has to get his committee together, or such of them as he can tear away from more pleasant pursuits, to check the ladies' target-papers and see that the transfers are correct. The targets being once more moved and the last two dozen arrows shot, the same process of checking scores and transfers is again gone through, the total hits, score, and golds of the day being added up and checked as well. The secretary can now release his committee, and having seen the first day's scores and any necessary alterations entered on a target-list and sent to the printers, he can go home to dinner. In the evening, if necessary, a committee meeting is held, or as at the Grand National a general meeting of the society; in either case the secretary, of course, must attend, and if he is any good at all he will direct covers so as to send a target-list by an early post to each absent competitor.

The second day's shooting is exactly like the first, but in addition to checking after each distance, the totals of the two days at each distance have to be added up and checked, and at the end of the day the grand totals. It should have been mentioned that any member of the committee who has checked any transfer or total puts his initial in a space provided for that purpose on the transfers, so that if there is any error the culprit is easily detected. The transfers being all duly checked, and, if percentages are deducted, the net value marked on the

transfer, the prize-list is prepared either at once or after dinner, the former being the better plan. The process of making out the prize-list is as follows:—The secretary, or the clerk, takes the ladies' prize-list, and gives one transfer to every two committeemen; he then names the prize—say first score—and the members of the committee call out the highest on their sheet, or 'good,' if they cannot beat a previously called score, or when a better score than any on their transfer has been called. The name of the shooter, society, hits, and score are then read out and entered on the prize-list, a pencil line being drawn through the name on the transfer. The same is done for each prize till all are awarded, except as regards the best golds, which are taken from the judges' cards, the name of the winner being carefully pencilled out on the transfer in the same way. The transfers are then signed, and the process is repeated with the gentlemen's prizes. The prize list is now ready, and a copy being prepared on a target-list, together with the second day's score and the totals, for the printers, the secretary has nothing to do beyond revising the proof and preparing the cheques, so that they can be put into envelopes for the prize-distribution on the third day.

During the second day's shooting the judges go to each target and ascertain the names of those who intend shooting in the handicap on the third day, collecting the subscription money (5*s.*) from each of them. On the morning of the third day the secretary has to see that this handicap is properly made out, and that each shooter gets his right allowance, which is got by deducting his score on the two days' shooting from the highest score made, and dividing the result by two, which gives the allowance. He also has to settle at what time the shooting shall begin, as, even if it is put in the circular, there is sure to be a discussion on the point, some people wanting it earlier, to catch a train to go home, others not being able to come unless it is later; and so on. Usually the gentlemen begin at 10.30, and the ladies at 11.30, and the same round is shot as on the two previous days, but a shorter interval is allowed

between the distances. At about 2.30, by which time the ladies will have finished their shooting and the gentlemen their eighty yards, the prizes are distributed. The secretary, having previously seen that the challenge and other prizes are placed upon a table for exhibition, reads the prize-list, while one of the judges hands the various prizes to the lady-paramount, or president, who gives them to the winners.

Votes of thanks are then moved to the lady-paramount, president, and donors of prizes, and the remaining arrows are shot. The handicap prize-lists are made out as soon as the shooting is over, and the prizes are given to the winners, which concludes the meeting.

The secretary's duties are, however, by no means at an end, as he has to see that the targets are sent to the purchasers; that the ground is cleared—all the tents, target-stands, and other properties packed up—the papers put in order, and all possible bills paid. These various matters will take up all the rest of the Friday, and in the evening he should send any prizes that have not been claimed to the winners. On Saturday morning he must make arrangements with the railway company, and see all his packages removed; and having gone over the ground and seen that everything is left in good order (a duty which should never be omitted), he can go home satisfied that he has done everything he can do. Once at home he will be occupied for some time in writing letters of thanks to the donors of prizes and lender of the ground, and in making up his accounts, after which he had better prepare for the next year, and take notes of any improvements which may occur to him.

The above are the duties of the secretary of one of the three meetings which move about; of course, many of them do not apply to a meeting which is always held in the same place, but otherwise there is little difference.

CHAPTER XXIII

ON SCORES

By C. J. Longman

In most branches of sport the second half of the nineteenth century has witnessed a very remarkable increase of skill among its devotees. In some cases this is due to the fact that where one took part in a sport or pastime fifty years ago, ten do so now. Among such a multitude of competitors, it is natural that the number of really excellent performers should increase, and that records should continually be broken. Another cause of the present high level of achievement is the fact that the weapons and implements of sport have been much improved lately.

The feats recorded, for example, in the volumes of this Library devoted to gun shooting would not have been possible, even for the great Colonel Hawker, in the old times, seventy years ago, when he pursued the partridges in the long stubbles armed with his flint-gun, or even when he first acquired the newly invented 'detonator.' A third cause remains to be mentioned which, perhaps, has been more powerful than either of the other two, and that is, the greater degree of earnestness and thoroughness which has been brought to bear on sport in modern than in olden times. It is no longer thought that, because a pursuit is only a recreation for leisure moments, it is therefore right to go about it in a half-hearted manner, as if success or failure were indifferent, or as if it were rather discreditable than otherwise to excel at a mere amusement. We

have nowadays found out that there is no exception to the rule that what is worth doing is worth doing well, and we have undoubtedly arrived at the conclusion that sport comes under the head of things worth doing.

In no sport has this improvement been more marked than in archery, though in this case the number of those who practise it is smaller than it was forty or fifty years ago. Had archers increased in the marvellous degree that golfers have of late years, it is probable that the average of shooting would be higher than it is, and it is possible that even the records, high as they stand, would have been raised. Our tackle—especially in the matter of arrows—has undoubtedly improved, though not so much as is the case in many other sports, and it is certainly true that we apply more science and devote more thought and energy to our craft than our forefathers did. This last result is almost wholly due to one man—the late Mr. Horace Ford. It would be absurdly understating the merits of this wonderful archer to say that he occupied the position in archery that Mr. W. G. Grace has done for twenty years in the cricket-field. Mr. Ford not only made scores which far outstripped those of his contemporaries, and established records which have never been beaten or even approached to this day, but he practically created modern archery. Before his day, though shooting with the bow was one of the most popular pastimes, yet the results achieved were so contemptible that one wonders how grown men and women could have continued to indulge in an exercise in which the failure of even the most successful among them was so lamentable and so complete. By what means Ford effected this revolution can be learnt in other parts of this book; here we have merely to note the fact.

In comparing the scores made at the present day with those recorded at the end of the eighteenth and the beginning of the nineteenth century, certain difficulties meet us at the threshold. In such a slovenly way was the business conducted in those days, when for popularity and fashion archery was at its height, that even in the books of the Royal Toxophilite Society the

distances at which the arrows were shot are not always mentioned, and at times it is impossible to ascertain how many arrows were shot. The matter is further complicated by the system, which prevailed up to 1794, of recording merely the number of hits and their gross value in money, a gold being reckoned as half a crown, a red two shillings, an inner white eighteenpence, a black a shilling, and an outer white sixpence. These values, which are in the ratio of 5, 4, 3, 2, 1—whereas the colours are now scored 9, 7, 5, 3, 1—were on match days paid to each shooter out of the Society's funds. Had Horace Ford lived in those days, the Society would have come to a premature end from want of funds. These peculiarities render the inquirer's task difficult, but there are more to come. Instead of using targets of the same diameter, at all ranges, as is now the custom, targets were used of a diameter of four feet at 100 yards, three feet at 80 yards, and two feet at 60 yards; while in a match which took place on August 19, 1794, it is stated that, 'owing to a mistake,' the targets were in fact four feet, two feet seven inches, and one foot nine inches. This finally puts a stop to any close comparison of scores at the two shorter ranges, as, of course, the size of all the rings in the smaller targets would be less than on a four-foot target. In spite of these difficulties, however, it is possible to reckon up fairly well the abilities of the archers of a hundred years ago.

As an example of the scoring of this period, we may take the annual or summer target of the Toxophilite Society, which was shot on June 9, 1794. It is recorded as follows:—

Target No. 1	Hits	£	s.	d.
Mr. Bullock	42	2	7	0
" Rickards (Lieutenant of Target)	82	4	8	0
" Girdlestone	35	2	0	0
" Perrott	50	2	15	6
" Vincent	20	1	3	6
		12	14	0

Target No. 2	Hits	£	s.	d.
Dr. Ainslie				
Mr. Shepheard	47	2	11	0
„ Palmer (Captain of Numbers)	104	6	6	6
„ Martin	39	2	9	0
„ Hughes	21	1	7	0
„ Kenyon	37	2	0	6
		14	14	0

Target No. 3	Hits	£	s.	d.
Duke of Leeds, President				
Mr. Elwin	86	5	5	6
„ Cazalet	58	3	7	6
„ Troward	77	4	9	0
„ Waring	59	3	5	0
„ Moorhouse	14	0	13	6
		17	0	6

Target No. 4	Hits	£	s.	d.
Mr. Haworth, Vice-President				
Mr. Glen (Lieutenant of Numbers)	98	5	15	0
„ Cowper (Captain of Targets)	60	3	12	6
„ Hassard	36	2	6	0
„ Crunden	8	0	9	0
„ Horton	15	0	18	6
		13	1	0
	Total	57	9	6

57 double ends ; 228 arrows.

At this meeting, several of the foremost archers of the day were shooting, such as Messrs. Palmer, Troward, Waring, Glen, and Crunden.

The distances shot are not mentioned, but probably an equal number of arrows were shot either at 120, 90, 60, and 30 yards, or at 100, 80, and 60. The latter ranges were introduced in 1792 by H.R.H. George, Prince of Wales, and were

known as the 'Prince's lengths.' As the scoring on this occasion was in money, and not by the 'Prince's reckoning' of 9, 7, 5, 3, 1, for the five colours, there is a probability that the old lengths were also used. Whichever round was shot, and, allowing for the fact that the target at the shorter ranges was less than four feet in diameter, the shooting was uncommonly bad. No archer put half his arrows into the target, the one who approached that not very great performance most nearly being Mr. Palmer, who put in 104 arrows out of 228. Next to him came Mr. Glen, with 98 hits out of 228; while more than half of the archers present missed more than three-fourths of their arrows.

Roberts mentions with very high praise the name of Mr. Anderson, 'whose excellence in archery has (both in this country and in Flanders) been a subject of admiration.' This gentleman was not a member of the Toxophilite Society, and shot there but rarely as a visitor. Ford[1] gives two of his scores made at 100 yards as follows:—

192 shots,	37 hits,	137 score
216 „	46 „	182 „

A third score of this gentleman's is given in the 'History of the Royal Toxophilite Society,'[2] made on July 9, 1795, when he made 66 hits, but the range and number of arrows shot are not mentioned. Mr. Anderson's score for 216 arrows at 100 yards may be profitably compared with Mr. Everett's score for the same number of arrows at the same range made on September 29, 1880, on the occasion of the Annual Handicap of the West Berks Archers, when he made 155 hits and scored 633. On this occasion twelve archers completed the 216 arrows, of whom one only made less than Mr. Anderson's 46 hits and 182 score.

In the 'History of the Royal Toxophilite Society' (p. 60) is given a list of the winners of the Prince's Bugle, which was

[1] *Theory and Practice of Archery*, 1st edition, p. 110.
[2] Second edition, p. 42.

shot for annually from 1792 to 1801. Two scores stand out as being far better than any others recorded, viz.:—

Year	Name	Arrows shot	Hits	Scor
1795	John Brady . . .	276	90	348
1797	E. W. Shepheard . ..	252	88	358

An equal number of arrows was shot at 100, 80, and 60 yards respectively, the colours were valued at 9, 7, 5, 3, 1, and the targets were four feet, three feet, and two feet in diameter at the three ranges. Allowing for the size of the targets, the results, when measured against modern shooting, appear to be of the most paltry character, though Mr. Waring, in his 'Treatise on Archery,'[1] calls Mr. Brady's performance 'undoubtedly very great shooting.' In fact, at this period, when archery was much in vogue, it was the rarest possible thing for an archer to put half his arrows into the target, and Ford states[2] that he had 'seen a letter as late as 1845, from good old Mr. Roberts, who was well acquainted with the powers of all the best archers of the preceding half-century, in which he states "he never knew but one man that could accomplish it."'

Unfortunately, the records of the Toxophilite Society between 1804 and 1836 are lost, but the shooting does not appear to have improved in the interval. In 1836 the Crunden Cup and Bugle were won by Mr. Peters with 29 hits, 81 score. This is the lowest score which has ever taken this cup, which is competed for on a round of 144 arrows at 100 yards. The list of winners and their scores is complete from 1836 to the present time, and it is printed here, as giving a fair idea of the shooting of members of this Society at 100 yards for a period of nearly sixty years. The day is always fixed early in the season, before archers are in full practice, so that it does not usually represent the best form of the year at 100 yards; but, as this practice has been followed from the commencement,

[1] Edition of 1828, p. 43.
[2] *The Theory and Practice of Archery*, 1st edition, p. 3.

the comparison of the shooting at different periods is a fair one. It will be noticed that the name of Mr. Horace Ford only occurs once, and on this occasion he was not competing for the prize, although he made the highest score. This is due to the fact that Mr. Ford seldom shot at the grounds of the Royal Toxophilite Society, although he was a member from 1850 to 1857 :—

LIST OF WINNERS OF THE CRUNDEN BUGLE, SHOT FOR ANNUALLY BY MEMBERS OF THE ROYAL TOXOPHILITE SOCIETY, AND THEIR SCORES.

144 *Arrows at* 100 *Yards*

Year	Winner	Hits	Score
1835	W. Peters	29	81
1837	J. Norton	38	122
1838	W. Robinson	49	159
1839	W. Peters	48	166
1840	P. D. Hadow	35	131
1841	J. C. Walford	38	128
1842	W. Bowyer Smyth	39	125
1843	Captain Norton	35	163
1844	,, ,,	43	159
1845	Not shot for	—	—
1846	H. Hippisley	35	105
1847	,, ,,	34	124
1848	Octavius Luard	34	114
1849	,, ,,	42	164
1850	C. K. Price	26	90
1851	W. Peters	46	170
1852	H. Hippisley	37	131
1853	H. C. Mules	35	119
1854	,, ,, [1]	55	189
1855	,, ,,	73	259
1856	,, ,,	55	215
1857	,, ,,	82	362
1858	,, ,,	77	297
1859	,, ,,	73	293
1860	,, ,,	76	214
1861	W. J. Richardson	69	267
1862	J. A. Froude	66	238
1863	J. Spedding	53	185
1864	,, ,,	57	173
1865	W. Butt	54	176
1866	T. Boulton	62	244

[1] Mr. H. A. Ford made 88 hits 372 score, but was not competing for the Cup.

LIST OF WINNERS OF THE CRUNDEN BUGLE—*continued*

Year	Winner	Hits	Score
1867	W. Butt	77	283
1868	E. R. Willis	64	244
1869	W. Butt	67	253
1870	,,	67	221
1871	G. E. S. Fryer	56	196
1872	H. O. H. Moore	80	296
1873	G. E. S. Fryer	91	361
1874	,, ,,	74	294
1875	,, ,,	76	302
1876	W. Butt	46	146
1877	R. Harris, M.D.	65	251
1878	G. E. S. Fryer	67	217
1879	W. Butt	64	282
1880	G. E. S. Fryer	78	340
1881	C. E. Nesham	75	311
1882	,, ,,	67	255
1883	,, ,,	104	478
1884	J. H. Bridges	78	308
1885	C. E. Nesham	65	253
1886	,, ,,	95	435
1887	,, ,,	89	359
1888	,, ,,	90	392
1889	C. J. Longman	93	425
1890	F. L. Govett	96	392
1891	,, ,,	89	355
1892	,, ,,	72	270
1893	C. E. Nesham	80	318
1894	,, ,,	69	285

The Crunden is won by the archer who makes the greatest number of hits on the appointed round, Sir H. Martin's Medal being allotted to the maker of the highest score ; but the two prizes cannot be taken by the same member. Consequently, the above list gives the greatest number of hits made on each occasion ; but where the maker of the greatest number of hits did not also obtain the highest score, which occasionally occurred, the actual highest score is not recorded here.

The first good score made on the Crunden day was Mr. Ford's, in 1854, his total being 88—372. This was considerably more than double any score previously made on this occasion, and it was in this year that Mr. Ford reached the first 1,000 in public on the Double York Round. Though his

name does not occur again in the Crunden competition, his influence made itself felt, Mr. Mules being his most successful follower at that time at the Toxophilite Society. Previous to 1854, 200 had never been scored on the Crunden Cup day, but in the thirty-nine years from then to 1893 on only five occasions has the Cup been won with a score of less than 200, while fourteen times the winner's score has exceeded 300, and three times it has exceeded 400. The three occasions on which a score exceeding 400 was made were all in the last eleven years, during which time on only two occasions did the winner's score fall below 300.

An example of shooting at 100 yards by other clubs than the Toxophilite, in the year 1835, is to be found in a letter from Mr. T. Hogan Smith to Mr. W. Peters, which is in the possession of the Royal Toxophilite Society. On this occasion three only out of the nineteen shooters are put down as being Toxophilites. The score is given as follows :—

Handicap Plate, Benham Park, October 6, 1835

72 Ends of three Arrows each at the distance of 100 *Yards—216 Arrows*

Archery Societies	Name	Hits	Score	Handicapped Score
Clapton .	Mr. Marsh . . .	70	286	— 286
W. Berks .	Mr. Moore . . .	75	285	— 285
W. Berks .	Mr. E. Meyrick . .	69	279	— 279
Tox. . .	Mr. Peters . . .	67	247	— 247
St. Leonards	Mr. Lawrence . .	53	177	Add $\frac{1}{3}$ 236
Tox. . .	Captain Norton . .	50	172	,, $\frac{1}{3}$ 229
Wellsbourne	Mr. Clark . . .	46	164	,, $\frac{1}{3}$ 219
E. Berks .	Mr. Merry . . .	44	150	Multiply by $2\frac{1}{2}$ 375
W. Berks .	Mr. Atwood . .	37	149	Add $\frac{1}{3}$ 198
E. Berks .	Mr. Howman . .	40	148	Multiply by 2 296
W. Berks .	Mr. Hughes . .	40	126	Add $\frac{1}{3}$ 168
Carisbrooke	Mr. Wilson . .	33	123	,, $\frac{1}{3}$ 164
W. Berks .	Mr. H. Nelson . .	36	120	,, $\frac{2}{3}$ 200
W. Berks .	Mr. A. Slocock . .	30	92	,, $\frac{3}{5}$ 146
Windsor Forest	Mr. R. Ward . .	30	86	,, $\frac{2}{5}$ 120
Tox. . .	Sir Henry Martin, Bart.	19	73	Multiply by 2 146
W. Berks .	Mr. T. Hogan Smith .	16	60	,, ,, $2\frac{1}{2}$ 150
E. Berks .	Mr. T. Morres . .	22	54	,, ,, $2\frac{3}{4}$ 148
W. Berks .	Mr. W. Wyld . .	18	50	,, ,, $2\frac{1}{2}$ 125

Little need be said about the shooting on this occasion. Although representatives of so many well-known clubs competed, no archer succeeded in putting half his arrows into the target, and only one put in more than one-third.

The influence of Mr. Horace Ford is shown more directly in the records of the Grand National Archery Society. At the championship meeting, held annually since 1844, the Double York Round has been shot on every occasion except the first, when the single round only was shot. At the first five meetings of the G. N. A. S. the scores were very poor, although the number of gentlemen shooting was large. In 1849, at Derby, Mr. Ford won the championship for the first time with 176 hits and 702 score. Mr. A. P. Moore had the highest score—viz. 173 hits and 747 score—but Mr. Ford beat him on the points. This is the first time that 700 was exceeded at a public meeting on the Double York Round, and this meeting therefore records a notable step in advance. The next year at Edinburgh Mr. Ford carried the record a long step further, as he won the championship with 193 hits 899 score. In 1853, at Leamington, he passed 900 on the Double York Round, scoring on this occasion 202 hits for 934 score. The following year, at Shrewsbury, he scored the first 1,000 in the annals of the G. N. A. S. with 234 hits and 1,074 score, and in 1857, at Cheltenham, he made the magnificent score of 245 hits and 1,251 score, which has never been approached since.

During the eleven consecutive years that Mr. Ford held the championship, no other archer approached the score of 1,000 on the Double York Round, the highest point reached by any of his opponents being in 1858, when Mr. Edwards was second with 186 hits 864 score. This archer was second on several occasions to Mr. Ford, and finally effected his overthrow in 1859 at Leamington, when he took the championship with 216 hits 962 score, Mr. Ford being second with 200 hits 922 score. Mr. Edwards was not the only archer who, inspired by Mr. Ford's example and profiting by his methods, succeeded in making scores which would have been thought wonderful in the

early days of the G. N. A. S. Mr. A. P. Moore, Mr. K. T. Heath, Mr. Bramhall, Mr. W. J. W. Baynes, Mr. P. Muir, Mr. Mules, Mr. Walters, and Mr. J. T. George, all exceeded 700 at the G. N. A. meetings during the years of Mr. Ford's championship.

It is the case with most archers that their private practice shows results considerably in excess of anything that they are able to attain amidst the fatigue and excitement of a prolonged contest in public. Mr. Ford's nerve was probably as good as that of any archer who ever faced a target, but he was no exception to the rule. Some details of Mr. Ford's private practice will be found in Chapter XVI., but his score of 809 from 137 hits on the Single York Round may be mentioned here as being the finest ever made by any archer of whose performances records exist.

It is somewhat remarkable that Mr. Ford's friends, Mr. Bramhall and Captain A. P. Moore, both made some wonderful scores in practice, their best being 125 hits 675 score by Mr. Bramhall and 133 hits 691 score by Captain Moore. The highest score on the York Round made by any living archer is 127 hits 639 score, made by Mr. G. E. S. Fryer on June 3, 1873, though this has been approached very closely by Mr. C. E. Nesham, Mr. O. K. Prescott, Mr. F. L. Govett, Mr. F. A. Govett, Mr. L. R. Erskine, Mr. C. J. Perry Keene, and possibly other archers in practice. But, though Mr. Bramhall and Captain Moore, drawing their inspiration direct from the great archer, were able in private to make these startling scores, they never succeeded in shooting nearly up to this level in a public match. In fact, neither of them was ever able to exceed 800 at a public meeting—a feat which has been performed by nearly a score of archers now shooting.

At no time during the century with which we are now concerned has the general level of shooting been so high as it is at present, and at no previous time have there been two or three archers who could show scores approaching those which are commonly made now by a number of the leading shots.

Previous to the year 1870 no archer, with the exception of Mr. Horace Ford, had succeeded in making a score of 1,000 or upwards at a public meeting on the Double York Round. Since that date the following scores have been made at public meetings, or at the Autumn Handicap of the Royal Toxophilite Society:—

Year	Name	Meeting	Hits	Score
1870	Capt. C. H. Fisher .	Grand Western .	225	1,033
1872	,, ,, .	,, ,, .	218	1,060
1881	Mr. H. H. Palairet.	Royal Tox. Handicap	210	1,062
1882	,, ,, .	Crystal Palace . .	221	1,025
1883	Mr. C. E. Nesham .	Royal Tox. Handicap	220	1,010
1886	,, ,, .	Grand National .	202	1,022
1888	,, ,, .	Royal Tox. Handicap	231	1,023
1889	Mr. F. L. Govett .	,, ,, .	225	1,039
1893	Mr. F. A. Govett .	Crystal Palace . .	214	1,004

It is noteworthy that all these archers are members of the Royal Toxophilite Society.

The above record is striking evidence of the improvement that has taken place in archery of late years, but archers cannot remain satisfied until they have surpassed the deeds of Mr. Ford. At the present time, although the general level of shooting is creditable, yet there is no single archer of surpassing excellence. A striking proof of this may be produced in the fact that no fewer than nine gentlemen who are still shooting have held the Championship.

So far, the scores of gentlemen only have been examined, but an equal improvement has taken place in the scores of ladies. In one respect, the ladies of the present day have an advantage over the gentlemen, inasmuch as they have not to stand a comparison with any archeress of the past of the calibre of Mr. Horace Ford. Indeed, two ladies of the present day, Miss Legh and Mrs. Bowly, are undoubtedly superior to any of their predecessors, the only lady who runs them close being Miss Legh's mother, Mrs. Piers Legh. An examination of the list of the ladies who have won the title of championess,

given at the end of this chapter, will show this at a glance, and will also establish beyond a doubt the superiority of our modern archeresses over those of former days. The following ladies have made scores of over 800 on the Double National Round at public meetings, or over 400 on the Single National Round of four dozen arrows at 60 yards and two dozen at 50 at the Ladies' Day of the Royal Toxophilite Society. At this last meeting a larger number of lady competitors usually enter than at any of the public meetings, and it is as searching a test of skill as any competition held during the year.

SCORES OVER 800 ON THE DOUBLE OR OVER 400 ON THE SINGLE (NATIONAL ROUND)

Year	Place	Name	Hits	Score
1867	Royal Tox., Ladies' Day	Miss S. Dawson (Mrs. Butt)	70	406
1875	,, ,,	Mrs. Butt	69	401
1881	Grand Western (Bath)	Miss Legh	144	840
1885	Crystal Palace	,, ,,	143	809
1885	Leamington	Mrs. Piers Legh	142	864
1885	Royal Tox., Ladies' Day	,, ,,	70	400
1890	Crystal Palace	Miss Legh	142	862
1890	Royal Tox., Ladies' Day	,, ,,	70	436
1892	G.N.A.S. (Eastbourne)	,, ,,	140	804
1893	Crystal Palace	Mrs. Bowly	140	822
1894	Royal Tox., Ladies' Day	,, ,,	70	426
1894	,, ,,	Miss Legh	71	413
1894	G.N.A.S. (Cheltenham)	Mrs. Bowly	133	823

Of these thirteen grand scores, no fewer than six were made by Miss Legh, and she is undoubtedly the finest archeress we have yet seen. The actual highest record is held by Mrs. Piers Legh, who, with the present championess, Mrs. Bowly, holds the second place. Miss Legh is the only archer of either sex who has ever succeeded in shooting through the two days of a public meeting without dropping a single arrow. Mrs. Butt's performances were far in advance of any archeress of her day, and still entitle her to be reckoned one of the four best lady archers.

The great excellence of certain lady archers at the present day led to an interesting match in the grounds of the Royal

FIG. 190. MISS C. L[illegible]

Toxophilite Society in 1891, between picked teams of ladies and gentlemen at 60 yards, six dozen arrows being shot. This match resulted in a somewhat easy victory for the gentlemen. In 1892, 1893, and 1894 a similar match was shot, but on each of these occasions the ladies shot four dozen arrows at 60 yards, and two dozen at 50 yards, while the gentlemen shot all their arrows at 60 yards. On these terms the ladies won in 1892 and 1894, and the gentlemen in 1893. No doubt some allowance ought to be made to the ladies in the matter of distance, as, though the liability to lateral error is the same in each case, the average trajectory of the men's arrows at 60 yards is undoubtedly lower than the average of the ladies at that range, and therefore the 'dangerous space' is somewhat longer. The ladies are fully capable of shooting six dozen arrows at their best level, and therefore the men get no advantage in staying power by their superior physical strength. Taking all points into consideration, the terms of the matches in 1892 and 1893 may be considered about fair.

NOTES TO THE TABLE OF WINNERS OF THE CHAMPIONSHIP ON NEXT PAGE

In 1844 a Single York Round was shot.
In 1845 the ladies shot 96 arrows at 60 yards.
In 1847 the ladies shot 144 arrows at 60 yards.
In 1848 the ladies shot 72 arrows at 60 yards, and 72 at 50 yards.
In 1850 the ladies shot 72 arrows at 60 yards, and 36 at 50 yards.

On all other occasions the ladies shot the Double National Round and the gentlemen the Double York Round.

The following archers made the highest score at the National Meeting, but lost the Championship on the points :—

Year	Name	Hits	Score
1849	Mr. A. P. Moore	173	747
1879	Mr. Rimington	165	799
1880	Mrs. Piers Legh	124	600
1884	Major C. H. Fisher	191	941
1889	Rev. C. J. Perry Keene . . .	177	859
1893	" "	169	719

List of Ladies and Gentlemen who have Won the Championship from 1844 to 1894 and their Scores[1]

Year	Place	Ladies	Hits	Score	Gentlemen	Hits	Score
1844	York	No ladies shot this year	—	—	Rev. J. Higginson	53	221
1845	,,	Miss Thelwall	48	186	Mr. P. Muir	135	537
1846	,,	No ladies shot	—	—	Mr. Hubback	117	519
1847	Derby	Miss Wylde	65	245	Mr. P. Muir	153	631
1848	,,	Miss J. Barrow	47	167	Mr. E. Maitland	135	581
1849	,,	Miss Temple	55	189	Mr. H. A. Ford	176	702
1850	Edinburgh	Mrs. Calvert	47	161	,, ,,	193	899
1851	Leamington	Miss Villiers	108	504	,, ,,	193	861
1852	,,	Miss Brindley	84	336	,, ,,	188	788
1853	,,	Mrs. Horniblow	89	365	,, ,,	202	934
1854	Shrewsbury	Mrs. Davison	109	489	,, ,,	234	1,074
1855	,,	,, ,,	115	491	,, ,,	179	809
1856	Cheltenham	Mrs. Horniblow	109	487	,, ,,	213	985
1857	,,	Miss H. Chetwynd	128	634	,, ,,	245	1,251
1858	Exeter	Mrs. Horniblow	101	457	,, ,,	214	1,076
1859	,,	Miss Turner	122	630	,, ,,	205	951
1860	Bath	Mrs. E. Lister	112	550	Mr. G. Edwards	188	886
1861	Liverpool	Mrs. Atkinson	113	575	,, ,,	175	745
1862	Worcester	Mrs. Horniblow	128	660	,, ,,	194	902
1863	Oxford	,, ,,	116	478	Mr. P. Muir	179	845
1864	Alexandra Palace	Miss Betham	129	693	Mr. G. Edwards	189	897
1865	Clifton	,, ,,	124	606	Mr. E. A. Holmes	174	788
1866	Norwich	,, ,,	130	662	Mr. G. Edwards	192	900
1867	Brighton	Mrs. Lister	130	696	Mr. H. A. Ford	215	1037
1868	Hereford	Miss Betham	128	672	Mr. W. Rimington	187	807
1869	Birmingham	Mrs. Horniblow	123	629	,, ,,	191	909
1870	Bath	,, ,,	134	700	Mr. E. A. Holmes	183	807
1871	Cheltenham	,, ,,	138	746	Capt. C. H. Fisher	205	955
1872	,,	,, ,,	136	660	,, ,,	175	771
1873	Leamington	,, ,,	142	764	Major C. H. Fisher	198	898
1874	Winchester	Mrs. Pond	132	644	,, ,,	193	873
1875	Richmond (Surrey)	Miss Hollins	133	693	Mr. G. E. S. Fryer	198	876
1876	Sandown Park	Mrs. W. Butt	138	752	Mr. H. H. Palairet	181	773
1877	Doncaster	,, ,,	126	676	Mr. W. Rimington	163	703
1878	Tunbridge Wells	Mrs. Marshall	132	692	Mr. H. H. Palairet	202	932
1879	Cheltenham	,, ,,	130	708	Mr. R. Walters	187	729
1880	Shrewsbury	Mrs. Horniblow	133	593	Mr. H. H. Palairet	195	897
1881	Sutton Coldfield	Miss Legh	139	763	,, ,,	191	849
1882	Leamington	Mrs. Piers Legh	134	750	,, ,,	195	885
1883	Cheltenham	,, ,,	138	712	Mr. C. J. Longman	193	869
1884	Windsor	,, ,,	135	701	Mr. C. E. Nesham	208	902
1885	Gt. Malvern	,, ,,	135	749	,, ,,	211	917
1886	Bath	Miss Legh	136	726	,, ,,	202	1,022
1887	Cheltenham	,, ,,	141	773	Major C. H. Fisher	199	849
1888	York	,, ,,	136	732	Mr. C. E. Nesham	172	820
1889	Oxford	,, ,,	128	690	Mr. Gregson	198	832
1890	Southampton	,, ,,	138	798	Mr. C. E. Nesham	207	921
1891	Worcester	,, ,,	138	798	Mr. F. L. Govett	188	818
1892	Eastbourne	,, ,,	140	804	Mr. G. E. S. Fryer	202	850
1893	York	Mrs. C. Bowly	139	779	Mr. Gregson	172	656
1894	Cheltenham	,, ,,	133	823	Rev. E. W. Hussey	185	787

[1] This table is taken from the table in the *Archer's Register*, but three inaccuracies in the latter are corrected.

CHAPTER XXIV

THE RANGE AND PENETRATION OF THE ENGLISH LONG-BOW

By C. J. Longman

It is out of the question to lay down any fixed limit as being the furthest range to which it is possible to send an arrow from a bow. The reason is obvious—namely, that the distance reached depends entirely on the strength and skill of the archer. A bow can readily be constructed which would throw an arrow an enormous distance if a man could be found strong enough to draw it. In fact, the powers of the bow have never been fully ascertained, because, however strong an archer may be, it has always been possible to construct a bow of far greater power than he could draw. Comparisons are often made between the results of the practice of archery and those obtained by the use of firearms. Those who institute such comparisons should always bear in mind one essential point—namely, that a rifleman has but to aim his weapon correctly, and hold it steady, while an archer has also to supply the motive power which propels his missile. Every yard of the arrow's flight is directly the product of the archer's muscular exertion, and its direction depends on the accuracy of his aim, which he must take at the moment when he is already exerting himself to the utmost in drawing his bow.

Many fabulous tales have been told as to the distances to which archers in times past have shot their arrows. Some of these stories are obviously absurd, while others, which seem marvellous, can best be tested by inquiring into the distances

which modern archers are able to reach. Having arrived at this fact, it will not be unreasonable to assume that in times when the bow was the most dangerous weapon of war, and when a thousand men practised archery for every one who does so now, there would be a high probability that archers of exceptional strength and skill would from time to time arise who could outshoot the archers of the present day. This inference seems still more reasonable when one reflects that, in the days when the bow was used for war, strength in shooting was of even more importance than accuracy, while the practice of modern archery is almost wholly devoted to the attainment of accuracy at moderate ranges.

It is unnecessary here to cite any of the feats which have been attributed by the ballad-makers to Robin Hood and his band, or any similar legendary exploit; but there is a passage in Shakespeare which bears so much on the subject that it is worth quoting. It is in the Second Part of *King Henry IV.* act iii. scene ii. :—

> *Shallow.* Is old Double of your town living yet?
>
> *Silence.* Dead, sir.
>
> *Shallow.* Jesu, Jesu, dead! a' drew a good bow; and dead! a' shot a fine shoot; John a Gaunt loved him well, and betted much money on his head. Dead! a' would have clapped i' the clout at twelve score; and carried you a forehand shaft a fourteen and fourteen and a half, that it would have done a man's heart good to see.

From this passage we may take it that in Shakespeare's time to hit the clout at twelve score was considered a great feat, while to shoot a 'forehand shaft' fourteen or fourteen and a half score, that is 280 or 290 yards, was excellent flight-shooting. What a 'forehand shaft' is, is not precisely known, but the context seems to suggest that it was a light arrow for distance shooting—in fact, what we should nowadays call a 'flight arrow.' This passage is quoted because it corresponds with singular exactness to the practice of Ford and other modern archers.

Of the various books on the subject which were published

at the time of the revival of archery at the end of the last century, the best by far is Roberts' 'English Bowman.'[1] Mr. Roberts is a careful writer, who does not indulge in the high-falutin' style in which some authors have treated this subject. He says (p. 102) that he is well satisfied that in modern times no man has shot an arrow a quarter of a mile. He quotes two instances of long shots by archers of his time, but he does not state that he was present on either occasion. The first shot was made by Mr. James Rawson, of Cheetham Hill, near Manchester, who died about the year 1794, and is described by Roberts as being the best archer of his day. This gentleman told Mr. Waring, the well-known bowyer, that he once shot upon ground very little declining in his favour eighteen score, or 360 yards. The force and direction of the wind are not mentioned. Mr. Rawson was a shoemaker by trade, who practised archery as an amusement from early youth. He was a man of middle size, but of unusual physical strength. He shot with a backed bow.

The second instance quoted by Roberts took place in 1798, when Mr. Troward, who like Roberts himself was a member of the Toxophilite Society, shot on a level piece of ground on Moulsey Hurst seventeen score, or 340 yards. The weather was very still, and Mr. Troward shot this distance repeatedly up and down wind in the presence of many members of the Toxophilite Society. Each shot was measured with the greatest possible accuracy, the field having been previously staked out in scores and half-scores. Mr. Troward used a self-bow, pulling 63 lbs., and flight arrows 29 inches long, weighing about four shillings. Roberts says of this shot and Mr. Rawson's, that it is not believed that for at least a century or two past these two instances of distant shooting have been surpassed. It will be noted that both of these gentlemen considerably exceeded the distance which Shakespeare considered worthy of remark.

Mr. Horace Ford[2] says that in modern times it may be

[1] *The English Bowman, or Tracts on Archery.* By T. Roberts. London, 1801.

[2] *Archery: its Theory and Practice.* 2nd edition, 1859.

safely asserted that very few archers can cover a distance of 300 yards, and that to attain this range a bow of 62 or 63 lbs. must not only be drawn but thoroughly mastered. He notes that many men may be able to draw a bow beyond this weight, even up to 75 or 80 lbs., but he believes that they will not be able to loose bows of this power strongly, and thinks that they will get a longer flight with a bow well within their strength. It is undoubtedly a fact that what is known as a slashing loose is one of the great secrets of success in flight-shooting, and will beat a dead loose by very many yards. Any tendency to that pause on the loose which is so essential for accurate shooting is quite fatal when distance only is the object in view.

Mr. Ford states that he himself had little experience in this kind of shooting, but in the autumn of 1856, in the presence of a brother archer, he succeeded upon several occasions in exceeding 300 yards. The longest shots he made were 308 yards, with a slight wind in his favour, and in a perfect calm 307 yards 1 foot. The distance, he adds, was carefully measured with tape. The bow used was a 68-lb. self-yew of Mr. Buchanan's, which was not remarkable for quickness of cast, though he found it subsequently a good target bow. Mr. Ford also quotes the experience of Mr. Muir, the well-known Edinburgh bowyer and archer, who found that, although he was possessed of great strength, he could shoot further with a bow of 58 to 62 lbs. than with one of greater power. Mr. Muir, however, never quite reached the 300 yards with a long bow, though on one occasion with a Turkish bow and a flight arrow he accomplished a measured distance of 306 yards. Mr. Ford sums the matter up by expressing his belief that, with practice, 300 yards is fairly attainable by many archers of the present day, and that several might even reach very considerably beyond it, but that to attain this skill in distant shooting a particular study of the art would be required.

Like most archers of the present day, I have devoted but little time or attention to distance shooting, but I have on two or three occasions made experiments in this direction. Like

Mr. Muir, I have found myself unable to reach 300 yards with the English long-bow. The first occasion I refer to was in April 1884, when at Abbot's Hill, in Hertfordshire, I shot 286 yards. The air was still; and the distance was measured carefully by Mr. Lewis Evans with a surveyor's chain. I used a 62-lb. self-yew bow by Aldred, which was lent me by Mr. C. E. Nesham, and some light flight arrows weighing three shillings and sixpence, which were given to me by the late Mr. Buchanan of Piccadilly.

In September 1893 I again attempted distance shooting at West Bradenham, in Norfolk, in the presence of several friends. On this occasion also I used a self-yew bow by Aldred, kindly lent me by Mr. Nesham, weighing 65 lbs. Mr. Nesham's kindness was unfortunately ill rewarded, as I shortly afterwards broke the bow, though not in flight-shooting. This bow was 3 lbs. stronger than the one I used in 1884, but it had a somewhat dull cast. On this occasion I only reached 269 yards. A strong wind was blowing across the line of flight, which probably did not affect the distance reached. The arrows I used were specially made to my measurements by Aldred. They are thirty inches long and weigh three shillings, and are strongly barrelled, the thickest part being just a quarter of an inch in diameter. The balancing-point is 12⅜ inches from the end of the nock. They are made of deal with a long piece of boxwood at the head, the box reaching for a foot from the pile to the extremity of the splice. The pile is very diminutive, being less than a quarter of an inch long, and the feather is balloon-shaped, the base being an inch and a quarter long and set very far back (fig. 191) I

FIG. 191. Flight arrow

give these measurements because these are the best flight arrows I have ever had ; and should any archer wish to try flight shooting, I should recommend him to try this pattern for any bow up to 65 lbs. I find that they flirt very little, and, moreover, that they do not break when they reach the ground, unless they strike a stone or the trunk of a tree. It is difficult to get light flight arrows which do not fail in one or both of these particulars.

In conclusion, I agree in the main with Mr. Ford's opinion that 300 yards is about as far as an average man can expect to reach, though an archer of exceptional physique can cover another fifty or sixty yards. Probably a man of the herculean power of Sandow, the professional strong man, would shoot a surprising distance if he were to practise archery, though without such practice it is improbable that he would accomplish any noteworthy shot.

The penetration of an arrow from a long-bow forms an interesting subject for inquiry, though it no longer has the importance which belonged to it in former days. The Welsh historian, Giraldus Cambrensis, who was born about 1147, tells some wonderful stories of the penetration attained by the Welsh archers in the wars of Henry II., tales which are quoted in most of the books on archery. Giraldus is, however, now regarded as an honest but somewhat credulous person, and perhaps too much weight has been given to his legends. They occur in his 'Itinerarium Cambriæ,' wherein he relates that there was a tribe called Venta which excelled all the other Welsh tribes in the art of archery. As an example of the force with which they shot, he says that at a siege of a town they aimed at two soldiers, who were flying towards a tower for refuge, hoping to hit them in the back, and that their arrows struck a gate made of holm oak, almost of the thickness of a palm, and penetrated right through it ; and that the heads of the arrows were preserved in memory of this remarkable shot.[1]

[1] 'Sagittas arcu mittentes portam turris iliceam, palmaris fere spissitudinis, transpenetrarunt.'

Another Welsh soldier, he says, shot an arrow at a horseman, who wore mail on his legs and a leathern garment underneath. The arrow struck him on the thigh, which it completely penetrated, through both sides of his mail, passed through the saddle and killed the horse. It must be admitted that if Giraldus tells the truth this Welshman was something of an archer. As regards the gate—'palmaris fere spissitudinis'—we must suppose this to have represented some three inches of timber. It does not seem incredible that the Welshmen's arrows may have pierced this through; at any rate, if the charge of credulity is to be brought against Giraldus on this score, what are we to say of Lord Bacon, who, speaking of the Turkish bow, says, 'it hath been known that the arrow hath pierced a steel target, or a piece of brass two inches thick'?[1] And, again, that 'an arrow without an iron point will penetrate to the depth even of eight inches into a piece of wood, when shot from a Turkish bow.'

A piece of evidence exists on this subject relating to the practice of archers in the reign of King Edward VI. which is of unimpeachable authority. It is contained in the 'Journal of King Edward's Reign,' written by the hand of the poor young king himself, the MS. of which is in the British Museum. The entry is as follows:—

> May 14th (1550).—There mustered before me an hundred archers, two arrows apiece, all of the Guard; afterward shot together, and they shot at an inch Board, which some pierced quite, and stuck in the other Board; divers pierced it quite thorow with the Heads of their Arrows, the Boards being very well-seasoned Timber.

The archers of King Edward's Guard did well enough, but they run easily second to Giraldus's Welshmen.

The penetration of an arrow will depend mainly upon four things—namely, the shape of the head; the material of which it is made; the weight of the arrow; and the initial velocity with

[1] *Nat. His. Expt.* 704, vol. ii. p. 564 of Bacon's works; ed. by Ellis and Spedding.

which it leaves the bow. The momentum of the arrow, which determines the force of the blow on the target, is the product of the mass of the projectile (which for practical purposes may here be considered the equivalent of its weight) and the initial velocity. The best penetration will be obtained by an arrow with the greatest momentum, of a shape to which the target will offer the least resistance, and made of a material which will not break up or give under the force of the blow. As I wished in the summer of 1893 to make some experiments with the object of discovering what penetration I could obtain with the bow and arrow, I had some arrows constructed which should fulfil these requirements. The main conditions were that they should be heavier than the ordinary target arrow, stronger, and with sharper piles. In regard to the piles I determined to try two shapes. First, an ordinary conical pile, but made of solid steel and tapering to a sharp point; and, secondly, a flat two-edged spear-shaped pile, also of solid steel, and also coming to a sharp point (figs. 192 and 193). Unfortunately, I am unable to say which shape gives the best penetration, because my instructions were not accurately carried out by the makers in regard to the weights of the different piles. I got no conical piles of the largest size I ordered; and consequently the contest between the piles of this shape and the spear-shaped was not a fair one, as the latter were much heavier. I am inclined, however, to think that the spear-shaped arrows gave the best results, after making allowance for the extra weight.

The first experiment I made at once showed a weak spot in my arrows. I shot against an oak gatepost some nine or ten inches thick at a distance of ten yards with an arrow, twenty-eight inches long to the end of the pile, which was conical. The arrow, which weighed five shillings, was made in the usual way of deal with hardwood footing, and the pile was fixed with a long tang of steel into the centre of the footing. The bow I used was the same 65-lb. self-yew by Aldred, lent me by Mr. Nesham, which I used for flight shooting. The arrow was quite unable

to resist the force of the blow, as it smashed off close to the pile, which remained buried for three-quarters of an inch in the gatepost. So tightly was the pile fixed to the gatepost that I was unable to draw it out, and only succeeded in doing so by cutting away the wood round it.

The next shot that I tried was against a stout gate, at some six or seven yards distance, the panels of which consisted of seasoned timber an inch thick. This test corresponded pretty closely with that set to the archers of his guard by King Edward VI., and the result was pretty much the same. I used the same bow and an arrow of the same make as in the former experiment. The arrow on this occasion, having a less formidable target to deal with, did not smash, but penetrated the gate right through, the whole of the pile projecting on the other side. On this occasion also I extracted the arrow with the greatest difficulty, and only by cutting away the wood with a knife. I regret that I did not try my heavy spear-shaped arrows against this gate, as I think they would have made an example of it. I was, however, deterred by the reflection that it was not my gate, and that I had already made one hole in

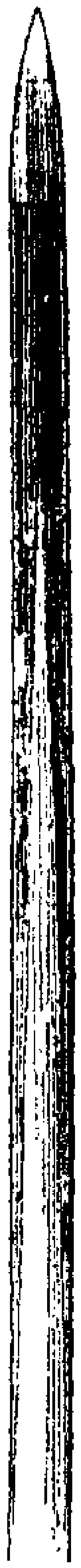


FIG. 192. Solid cylindrical pile

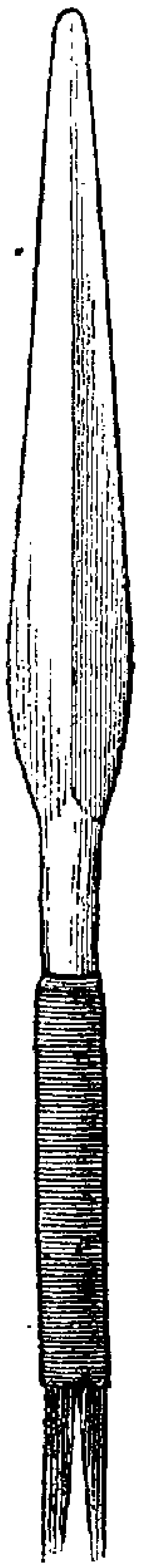


FIG. 193. Spear-shaped pile

it. This hole can, no doubt, be cured by a piece of putty skilfully inserted, but the spear-shaped arrows would have made a more formidable wound.

The next experiment I made was at some of Pettit's field-gun trial penetration pads, supplied me by my gunmaker, Mr. C. Lancaster. These pads consist of forty-five sheets of the stoutest and toughest brown paper tightly bound together with wire clips. Mr. Lancaster informs me that with an ordinary shot-gun the result is considered exceptionally satisfactory if thirty-five sheets are penetrated. I tied eight pads tightly to the trunk of a tree, and tested this statement with a 14-bore central-fire gun by Lancaster, loaded with E.C. powder and $1\frac{1}{8}$ oz. of medium game (the size between No. 5 and No. 6) at 20 yards. One shot broke the 32nd sheet; and a gradually increasing number broke the sheets from the 32nd down to the 22nd. The shots themselves were found mostly between the 20th and 22nd sheet.

I also fired with the same gun and charge at seven yards. At this distance two shots broke all forty-five sheets; four broke forty-one; seven broke thirty-nine; and twelve broke thirty-seven; the first shot found in the pad being between sheets 37 and 36.

Taking the bow, I shot a five-shilling arrow with sharpened conical point (the same pattern that I used against the gate) at the pads at seven yards. The arrow penetrated two entire pads and fourteen sheets of the third pad. This seemed to me a remarkable penetration to be achieved with so light an arrow as five shillings or one ounce. It was, however, very poor compared with that accomplished by my heavy spear-shaped arrows. These arrows are made of deal and hard wood footing, and are twenty-eight inches long to the beginning of the head, which is $5\frac{3}{4}$ inches long, without reckoning the tang inserted in the footing, the total length being $33\frac{3}{4}$ inches. They weigh eight shillings and sixpence, or very nearly $1\frac{3}{4}$ oz. They seem sufficiently formidable weapons, though they fall short in length of the cloth-yard shafts which our ancestors

are reputed to have habitually drawn to the head. At seven yards this arrow went clean through four entire pads, and penetrated fifteen sheets of the fifth pad.

It is, therefore, obvious that a sharp arrow shot from a strong bow at short range will inflict an infinitely deeper wound than a charge of shot. I imagine that the further the distance the greater the advantage of the arrow would be, as at very short range a charge of shot is forced on by the wad, and possesses some amount of cohesion, so that its momentum is considerably greater than that of the individual pellets. Moreover, at distances of 100 yards and upwards the arrow is still sufficiently dangerous, while a charge of shot is nearly spent.

I also had some cartridges loaded with spherical leaden bullets, weighing $1\frac{1}{8}$ oz. and $2\frac{1}{2}$ drs. of black powder. At twenty yards the bullet, when fired from the same Lancaster gun, penetrated four entire pads and injured about half of the fifth pad, the bullet itself being found much smashed and distorted in the fourth pad. This corresponds very closely with the result obtained with the arrow at seven yards, so that it appears that a leaden bullet of $1\frac{1}{4}$ oz. with $2\frac{1}{2}$ drs. of black powder behind it is rather more dangerous than a sharp arrow weighing $1\frac{3}{4}$ oz. from a 65-lb. bow. At ten yards the bullet penetrated five complete pads and injured the sixth, the remains of the bullet being found in the fifth pad. I had hoped to have extended my experiments considerably; but unfortunately, as I have said, the bow broke, and I had nothing left but target bows, which were not strong enough for this purpose. I hope, however, to find time to resume this inquiry at some future date; and I trust that some other archers will amuse themselves by experiments both in distance shooting and in penetration.

CHAPTER XXV

ON ARCHERY PRIZES AND HANDICAPPING

By C. J. Longman

It has generally been found to be the case that, in pastimes which take the form of contests between individuals, some prize or decoration has been in request to be bestowed upon the winner as the tangible emblem of his victory over his fellow-athletes. In games which are contested by teams united for a common purpose this feature has been less marked, and the games of cricket and football have this advantage over other athletic pursuits—that their tendency is distinctly unfavourable to selfishness. But it certainly is the fact that in an athletic contest between individuals a prize in some form is generally expected. Where the rewards are purely honorary, or of little intrinsic value, it does not appear that any objection can be raised to the system ; but where they take the form of valuable pieces of plate or objects of art, which have a convertible value at the silversmith's—and still more where prizes are given in actual cash—the practice is to be regretted. In some sports the rewards to be gained are so valuable that they tend to overshadow in the minds of some competitors the feeling of friendly rivalry which ought to be the basis on which all such competitions are held. The mere fact that the word 'pothunter' is in use, and that its meaning is well known to all who take an interest in athletics, is sufficient proof that this feeling is not purely imaginative, but that it has some basis in fact. The existence of such prizes is perhaps unavoidable ; but nevertheless some may regret it.

In archery, money prizes are given at the public meetings, small sweepstakes are frequently shot for by the various clubs, and prizes are often offered for competition by generous individuals—sometimes in money, but more often in the form of cups, or of bows or arrows. Although the amount of money to be won in a season by even the most successful shot is very moderate, yet some archers wish that it was not possible to win any. They have a feeling that the bills stuck up outside the ground where a public meeting is to take place announcing 'Grand Archery Fête! so much money to be given away in prizes,' &c., does not add much to their own self-respect, and, further, they are sensible of a jarring note when, at the end of a competition, they are offered a cheque or some golden sovereigns for having beaten their friends at a friendly contest. Where the prize fund is provided wholly by a sweepstakes subscribed by the competitors themselves, little perhaps need be said, except that the entrance money should not be fixed so high as to form a serious tax on slender purses. There is as much fun to be got out of a shilling or half-a-crown sweep as out of a guinea one. The matter is somewhat different when outsiders who are not archers—some of whom do not pretend to take any interest in archery—are asked to contribute to the fund from which the prizes are provided. It is no doubt a considerable benefit to a town to be selected for the scene of a public archery meeting which brings upwards of a hundred archers as visitors to the place for several days. But the fact that we confer a pecuniary benefit on the citizens, or some of them, by our presence, does not justify our asking the tradespeople, hotel-keepers, and so forth, of the place to contribute towards our prize fund. The so-called 'local guarantee' happily does not assume such proportions nowadays as was formerly the case, but it is much to be hoped that it will shortly disappear entirely. If we cannot keep our money prizes at their present level without falling back on this most objectionable resource, let us lower them, or even do without them altogether.

In some degree archery may be said to have suffered

from a plethora of prizes. Meetings of small country clubs have been known at which, if there were not actually sufficient prizes to provide one for each competitor, at any rate a considerable majority received some reward for such skill as they were able to display. And it cannot be alleged that at our public meetings the prize list is too short. It is said that competitors are induced to attend meetings by the likelihood of their winning one of these numerous prizes. This may be the case, but some may think that the motive is not a good one for attendance ; and it must be remembered that, if the prize list were considerably curtailed, the entrance fee might also be lowered. Surely the right way to render the meetings accessible to all archers, rich and poor, is to cut down expenses as much as possible : not to tempt them with the prospect of competing for money prizes. It will be seen from Mr. Maxson's chapter on American archery that money prizes have been abolished in the United States.

Moreover, the fact that archers whose skill is obviously moderate do frequently win prizes, even at public meetings, tends to lower the estimation in which the sport is held by outside observers. One form of prize in particular confers no honour whatever on the winner—namely, that which is frequently given for the best gold. It is true that this prize is more likely to fall to an archer who hits the gold frequently than to one who hits it seldom, but the actual position of the arrow in the gold is a fluke ; a shot that strikes the pinhole being not perceptibly better than one which misses it by an inch. Although the prize for the best gold, like any other mild form of gambling, is productive of some small amusement and excitement, yet this prize should not on that account occupy a prominent position in any meeting which professes to aim at the encouragement and display of skill at archery.

Competitions at archery are conducted on two principles, the first being a match where all start on an equality, the prize going to the absolute best shot, and the other being a handicap. Several forms of handicapping are in vogue, the principles

adopted being either merely to penalise competitors for past successes, or else to make a more elaborate attempt to bring together archers of different powers. The old-fashioned system was to penalise an archer by the loss of the white ring when he won the first prize. If he repeated his success, he would then lose the black in addition, and if in spite of this he again succeeded he would lose the blue. After a certain interval, during which he failed to win, the forfeited rings would be restored to him one by one. This system was rough and ready, and has now been abandoned, except in very primitive country clubs. The method which has taken its place is the deduction of definite percentages from the score of the archer who is to be penalised, from five per cent. upwards, according to the enormity of his offence. At those public meetings where percentages are deducted, twenty-five per cent. is the limit, that being the amount lost by the archer who makes the highest score at the previous meeting of the Grand National Archery Society.

In some clubs, however—the West Berks, for example—there is no limit to the amount a man may lose if he persists in winning, and cases have been known of archers who have piled up penalties to the extent of sixty per cent.

If penalties are to be employed, no doubt the percentage system is the best, but a better method is available where a pure handicap is desired. This is to take the average of a certain fixed number of the previous scores of each archer. The competitor who has the highest average is said to lead the handicap, and he has the privilege of giving to each of his rivals the number of points by which his average exceeds their averages. The same principle is applied throughout; thus, if there are four competitors, A, B, C, and D, whose averages are as follows:—

A—400 B—350 C—300 D—250

A will give B 50, C 100, and D 150. On the other hand, B will receive 50 from A, and give 50 to C, and 100 to D, and

so on with each individual. If it was certain that the average represented each man's form accurately, this would be an ideal system of handicapping. At archery, however, men are liable to great fluctuations, and consequently the average of a man's last three rounds, especially if they were shot some little time before the handicap in question is decided, may give a figure far above or far below the score which he can reasonably expect to make on that day. If an archer is put at a figure far below what he actually makes, he will spoil the handicap by winning with a score which is quite out of the reach of the scratch men. For example, if a really good archer makes three bad scores averaging 200 early in the season, and later on recovers his form and makes a score of 500, he will set the scratch man a task which is practically impossible. If the latter's average is 470, he will have to give the former 270; this, added to his score of 500, gives no less than 770 as the figure which the scratch man has to beat. Such a case as this is by no means impossible, and in order to avoid such anomalies the Royal Toxophilite Society have recently adopted a system invented by Colonel Lewin which has proved a considerable improvement on the old method. At the end of the season a Committee examines the performances of each member during the past year, and taking the average fixes his permanent rating for the ensuing season. In any handicap at the beginning of the season, this permanent rating would be his handicap figure. As the season progresses this rating is modified by more recent form, the last three rounds previous to a handicap being taken, and the average of these is added to the permanent rating and divided by two. Thus, if the permanent rating of an archer were 350, but his last three rounds averaged 450, his handicap value would be $\frac{350+450}{2} = 400$. This is, on the whole, the best system of handicapping which has been devised. Some clubs adopt the system of dividing their members into classes according to the scores they make, each class competing for a prize. If an archer improves or falls off in his season's shooting,

he is promoted or degraded to the class above or below. This plan has some merits, as it excites a keenness among the archers to win promotion or to maintain their position among those who have arrived at the first class. It is not strictly a handicap, and there is nothing to prevent a regular handicap being shot for in a club which is divided into classes, the classes being disregarded for the occasion.

Two systems are in vogue by which prizes are determined which are competed for on level terms. The usual way is to award the first prize to the archer who makes the highest score, but certain competitions—amongst them the Championship of Great Britain—are decided by points. In these competitions the ten points on the York Round, single or double, are apportioned as follows :—

2 points for most hits on the round
2 „ „ highest score on the round
1 point for most hits at 100 yards
1 „ „ highest score at 100 yards
1 „ „ most hits at 80 yards
1 „ „ highest score at 80 yards
1 „ „ most hits at 60 yards
1 „ „ highest score at 60 yards

For the National Round, shot by ladies, eight points are allowed—two for most hits and two for highest score, and one point for hits and one for score at 60 and 50 yards respectively. The system of points has been adopted mainly for two reasons : (1) because it rather increases the value of hits ; and (2) because it is supposed to favour all-round shooting at the various distances. The first point is indisputably true, but it is an open question whether it is desirable to increase the value of hits as against score. This is a matter which cannot be decided by a mathematical demonstration ; but it is the general feeling among archers that the present values set upon the five rings are satisfactory. Unless the contrary can be shown to be the case, there would seem to be no advantage in

deciding a contest by points rather than score, because points accentuate the value of hits. There remains the second ground—namely, that points favour a man who is good at all ranges as against a man who is excellent at one range but indifferent at the others. This argument is somewhat stronger, but it is necessary to consider that a man who makes the highest total by means of an extraordinary score at one range, while he has comparatively failed at the others, can at any rate claim that he has excelled his antagonists at that range to a greater degree than they have excelled him at the other ranges. More often than not the archer who makes the highest score also obtains a majority of points, so that the advocates of each system are satisfied. Occasionally, however, it is otherwise; and, owing to an instance of a very anomalous character which occurred recently in the contest for the championship, the whole matter is undergoing the consideration of the Committee of the Grand National Archery Society at the present moment.[1]

The question of the value attached to the different rings has an interest apart from its bearing on the controversy of 'points *versus* score.' It is the feeling of some archers that hits in the centre of the target are too highly paid; that the bow is not so accurate a weapon that any archer can rely on hitting the middle of the target, at any rate at 100 yards; and that consequently a gold is a fluke which ought not to count nine while a white only counts one and a black three. That this feeling is a common one is shown by the frequent appeals for sympathy heard on the archery field, proceeding from archers who have obtained a low average per hit. Such sympathy may readily be expressed—not on the ground on which it is claimed that the archer is an unfortunate one, but on the

[1] The Society decided at its meeting in August 1894 that 'the champion prizes shall be awarded to the archer gaining the greatest number of points, provided that those for gross hits or gross score are included; any points won by other archers shall be redistributed amongst those gaining the points for gross hits or gross score.'

true ground that he has been shooting badly. It is, however, never necessary and seldom advisable at such a moment to state the reason on which your sympathy rests. In fact, the inaccuracy is not inherent in the bow, but in the archer. An examination of a number of scores shows that the more arrows an archer puts into the target the higher will be the average score he obtains per hit. Further, it will show that the shorter the distance the higher will be the average per hit, and that the average per hit of a fine shot at one range will equal the average of a bad shot at the next shorter range. Indeed, it is not too much to say that if an archer were to give the total score made by him in thirty or forty York Rounds, it would be possible to tell him within a small limit the number of hits he made; and, on the contrary, if he were to tell you the average value of his hits at each distance and on the whole round, it would be possible to calculate approximately his average score.

On May 7, 1852, a York Round was shot in the grounds of the Royal Toxophilite Society, only five gentlemen completing the round. In those days scores did not run high, and this occasion was no exception to the rule, the highest score being 225 and the lowest 110. It would be safe to predict that on this occasion no one attained to an average value of four per hit; and this was the case. The highest average was 3·77, and the lowest was 3·43, which was secured by the archer who made the lowest score.

From an examination of twenty-four Double York Rounds in which the scores ranged between 800 and 500, taken at random from the reports of scores made at public meetings published in the 'Archer's Register,' the following averages are arrived at:—

	per hit		per hit
At 100 yards . .	3·91	At 60 yards . .	4·71
At 80 yards . .	4·21	On the whole round .	4·23

On an examination of seven Double and seventeen Single York Rounds (thirty-one York Rounds in all), exceeding 400

on the Single and 800 on the Double Round, the following average per hit comes out :—

	per hit		per hit
At 100 yards . .	4·10	At 60 yards . .	5·04
At 80 yards . .	4·63	On the whole round .	4·51

This shows a considerably better average on each distance and on the whole round than the case previously quoted of Double Rounds between 500 and 800, while the Double Rounds between 500 and 800 showed a much higher average than that of the Single Rounds between 225 and 110.

An examination of twenty-four Single Rounds made by each of those two fine archers, Major Fisher and Mr. C. E. Nesham, confirms the results of the thirty-one rounds above 400. Major Fisher's twenty-four rounds averaged 96 hits 430 score, and Mr. Nesham's averaged 99 hits 437 score. The details are as follows :—

MAJOR FISHER

	per hit		per hit
At 100 yards . .	4·05	At 60 yards . .	5·02
At 80 yards . .	4·60	On the whole round .	4·50

MR. C. E. NESHAM

	per hit		per hit
At 100 yards . .	4·07	At 60 yards . .	5·22
At 80 yards . .	4·22	On the whole round .	4·41

In Mr. Ford's famous score of 137 hits 809 score, his average per hit works out at the amazing figure of 5·90.

While it is impossible to say that the values of 1, 3, 5, 7, 9 for the five colours are mathematically correct, these figures certainly prove that the better a man shoots the higher in the long run will his average per hit be ; and this fact certainly provides an argument in favour of the contention that the values at present attached to the colours are a satisfactory measure of the value of hits.[1]

[1] See 'Hits and Score,' by C. J. Longman, in the *Archer's Register* for 1888.

CHAPTER XXVI

ARCHERY IN THE UNITED STATES

BY MR. L. W. MAXSON

SOME years ago the writer attended a meeting of the Washington Anthropological Society to hear a series of papers upon the subject 'Poison Sticks and Arrows of the American Indians.' Listening to these and the ensuing discussion, he was interested in the manner in which tribal relations and race types were traced in the primitive weapons of the savage, their progress toward civilisation being gauged by the nature of their feathered shafts. He felt a thrill of satisfaction that, not from the makers of these ingeniously contrived weapons, but from the higher type of the British bowman, the American archer has drawn his inspiration and skill. With him it is an imported pastime, and his practice differs little from that which is seen on any English range.

At the date of the revival of British archery, in the latter portion of the last century, the United States had but recently begun its independent national existence, and the conquest and settlement of new territory engrossed the minds of its citizens. They were thus uninfluenced by the new growth of the pastime across the sea; and it was not till the second quarter of the present century that modern archery left its first trace on the rural sports of America.

As the population grew more dense, and the pleasures of field and forest were denied to the urban resident, that love of outdoor sport, so characteristic of the Anglo-Saxon race, forced him to seek some new means of amusement and physical culture. Waring's little treatise on Archery and the pleasant

tales of those who had shot abroad supplied the hint, and soon archery had become a popular sport in several sections of the land. Many clubs were started, and a lively interest was aroused; but in a few years, with one exception, these clubs passed away. This was the United Bowmen of Philadelphia. Beginning, in the fall of 1828, with an equipment that would have done honour to a museum, they formed an association that for thirty years gave pleasure and profit to many who have since become prominent in public affairs and private business. Who can say how much of the success of after years they owed to the clear head and steady nerve gained on the verdant range?

Archery equipments were not easily obtained; but before the beginning of the second season they had, as Franklin Peale, one of their original members, states, an outfit of the best quality, which 'consisted of a lemonwood bow, and spare strings, a dozen arrows contained in a quiver, a belt, pouch, grease-box, and tassel, a splendid pair of targets, and, finally, Waring's "Treatise on Archery," accompanied by a bill as long as a woodcock's of heavy charges, no inconsiderable item of which was Uncle Sam's thirty-three and a third per cent. duties.' Weekly meetings for practice and public target meetings were held, while generous prizes were provided to tempt the lagging bowman. A fine silver vase, valued at several hundred dollars, was purchased as the Championship trophy, to be shot for every year by the members. This is now deposited with the Historical Society of Pennsylvania, at Philadelphia. The names of all the club members are carved upon it, and the medals of the victors of the past hang pendant from the brim. The old vase stands a monument to the best club that marked the first epoch of American archery; for, in 1859, the secretary closed his record with the words, 'No grounds; no meeting.' It did its duty well, and gave to American bibliography its first archery treatise—'The Archers' Manual'—a revision of Waring, published in 1830 at Philadelphia.

During the next two decades no trace is found of any im-

portant clubs or public meetings. Here and there a lover of the greenwood still drew the bow, and a few enthusiasts, like Maurice and Will H. Thompson, used the weapon in hunting. In 1877 and 1878 a series of articles, written by the former, appeared in the leading American magazines. The very air of the field breathed through these, and ere they had been collected and published under the title of 'The Witchery of Archery,' thousands had been fascinated by the tales, and throughout the northern section of the country bow clubs were springing into existence. Apt teachers were found in the few who had shot alone or had followed the sport in the mother-country, but the 'Theory and Practice of Archery' by Ford was the one great source of information. Ford impressed his individuality upon the mass of American archers, and his system, or slight modifications thereof, has been all but universally adopted.

Pursuant to a call issued by the officers of the Chicago Archery Association for a convention of archery clubs to consider the propriety of organising a National Association, representatives of eight societies met at Crawfordsville, Indiana, on January 23, 1879. A constitution and rules were adopted, the Hon. Maurice Thompson was elected president, and the first National Archery Meeting set for Chicago in the month of August 1879. Prior to this meeting many additional clubs had become members of the Association, and a three days' contest was held, in which twenty ladies and sixty-nine gentlemen participated. Interest chiefly centred in the individual and team championship matches. The Championship was won by Will H. Thompson, establishing the first American record for the Double York Round :—

100 yards		80 yards		60 yards		Total	
Hits	Score	Hits	Score	Hits	Score	Hits	Score
70	236	63	233	39	155	172	624

Owing to the recent introduction of the pastime into public favour, it was necessary to create new rounds at shorter distances than those commonly shot in England. The American Round, consisting of thirty arrows each at 60, 50, and 40 yards, was selected for the team contest between the various clubs forming the Association. The ladies competed for Championship honours at the Columbia Round, consisting of twenty-four arrows each at 50, 40, and 30 yards. Mrs. S. Brown, of Hastings, Michigan, won, scoring at the Double Columbia Round :—

50 yards		40 yards		30 yards		Total	
Hits	Score	Hits	Score	Hits	Score	Hits	Score
28	132	36	152	46	264	110	548

Many special matches were shot at this and other early association meetings ; but these, in a few years, gave place to established rounds.

In 1881, at Brooklyn, the National Round, consisting of forty-eight arrows at 60 yards and twenty-four arrows at 50 yards, was adopted for the Ladies' Championship contest, the Columbia being retained for the Short Range Championship. In 1883 the American Round was adopted for the Short Range Championship for gentlemen ; and in 1887 the Potomac Round, consisting of twenty-four arrows each at 80, 70, and 60 yards, was introduced as a mean between the long and short ranges. In 1880 the Ohio Round, consisting of ninety-six arrows at 60 yards, was adopted as the team round for gentlemen.

At first, membership in the National Association was restricted to clubs, but this proving disastrous to both the Association and the pastime in general, in 1887 a new constitution was adopted, practically putting the membership upon the individual basis. Money as well as special prizes were contested

for at the first, but at all subsequent National Meetings money prizes have been barred. The Association possesses handsome gold challenge medals not only for the Round Championships, but also for each of the distances shot.

The second National Meeting was shot at Buffalo, July 13 to 15, 1880, eleven ladies and thirty-five gentlemen competing. Mr. L. L. Peddinghaus won the Championship by best gross score. The records of National Meetings hereinafter given are above 500 for the Double York and Columbia Rounds, and 350 for the National Round. Those for this meeting were :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
L. L. Peddinghaus.	55	221	56	274	41	211	152	706
Will H. Thompson	59	223	58	256	43	223	160	702
Walter Burnham .	56	206	62	256	41	211	159	673
F. Walworth . .	55	215	50	198	39	177	144	590

The Ladies' Championship was won by Mrs. T. Davis on gross score :—

Double Columbia

Name	50 yards		40 yards		30 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
Mrs. T. Davis .	30	112	37	203	47	283	114	598
Mrs. J. S. Noyes .	26	120	39	177	43	233	108	530
Mrs. E. T. Church	26	82	38	180	46	254	110	516

The third National Meeting was held at Brooklyn, New York, July 12 to 14, 1881. Nineteen ladies and fifty-seven gentlemen shot. This meeting brought out a more general attendance, and showed a rapid development of the sport. Clubs from Massachusetts to California were represented.

The York Round was the centre of interest. During the first day victory rested between three comparatively new archers, Mr. Sidway scoring 91—405, Mr. Walworth 94—396, and Colonel Williams 87—377. Mr. Walworth won the Championship with 5 points, having lost 1½ point to Mr. Sidway by a rebound at 100 yards. It was in this contest that Colonel Williams first came to the front :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
Frank Walworth	67	261	64	262	42	240	173	763
R. Williams, jun.	62	222	57	253	48	270	167	745
F. Sidway	68	262	63	249	41	195	172	706
Will H. Thompson	53	163	54	224	40	196	147	583
Adam Gray	37	155	48	202	33	167	118	524
E. L. Morse	36	122	45	185	40	198	121	505

The Ladies' Championship was won by Mrs. A. H. Gibbs with the entire 8 points. But two scores above 350 were made :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. A. H. Gibbs	61	233	36	160	97	393
Miss E. T. Morton	49	201	32	152	81	353

The fourth National Association Meeting was held at Chicago, July 11 to 13, 1882. Thirteen ladies and thirty-one gentlemen shot. Mr. Taylor won the Championship with 6 of the 10 points, Mr. Nash having won 4 points for gross score and hits and score at 100 yards. Great interest was aroused toward the close of this match, for a single miss on the part of Mr. Taylor in his concluding end at 60 yards would have given the Championship to Mr. Nash :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
D. A. Nash	58	210	65	257	44	246	167	713
H. S. Taylor	55	151	67	275	46	252	168	678
R. Williams, jun.	49	179	55	235	44	236	148	650
W. A. Clark	45	197	62	244	41	195	148	636
Will H. Thompson	46	178	54	234	44	198	144	610
F. E. Perry	42	148	56	226	39	179	137	553
C. S. Upson	40	140	54	174	41	193	135	507

Mrs. A. H. Gibbs again won the Championship medal, securing the entire 8 points at the Double National Round :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. A. H. Gibbs	63	251	38	198	101	449
Miss F. Morrison	61	237	33	137	94	374
Mrs. C. R. Wild	46	174	39	187	85	361
Mrs. H. C. Carver	43	188	34	162	82	350

The fifth National Meeting was held at Cincinnati, July 10 to 12, 1883, twenty-seven ladies and forty-two gentlemen competing. This was one of the best meetings ever held in America, all National records being advanced. Colonel Williams won the Championship with 9 points, the point for hits at 60 yards being divided between Messrs. Taylor and Nash :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
R. Williams, jun.	76	300	79	371	44	236	199	907
H. S. Taylor	53	191	51	223	45	235	149	649
W. A. Clark	56	192	63	257	39	171	158	620
D. A. Nash	35	135	57	243	45	209	137	587
C. S. Upson	38	96	64	242	44	222	146	560
C. J. Strong	42	156	42	164	39	195	123	515
M. C. Howell	26	90	47	201	40	216	113	507

Mrs. M. C. Howell won the Ladies' Championship, with 6 of the 8 points, from the best field that ever graced the National range, Mrs. S. A. Whitfield having won the points for hits and score at 60 yards :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. M. C. Howell	85	413	47	277	132	690
Mrs. S. A. Whitfield	88	436	39	185	127	621
Mrs. T. F. George	71	299	45	237	116	536
Mrs. H. M. Pollock	76	328	42	198	118	526
Mrs. J. Arthur	72	296	43	213	115	509
Mrs. J. P. Newman	47	195	37	185	84	380
Mrs. C. R. Wild	56	220	38	152	94	372
Miss L. Maish	46	196	33	159	79	355

The National Meeting of 1884 was held at Pullman, Illinois, near Chicago, July 8 to 10. Owing to a misunderstanding as to the date, the attendance was greatly reduced. Twenty-five archers from the neighbourhood of Cincinnati alone were stopped when about to start for the place of meeting. Only one lady and fifteen gentlemen competed. Will H. Thompson again became champion, having won 4 of the 10 points, including gross score. Mr. Williams won the points for hits and score at 100 yards and gross hits, and Mr. Beach received those for hits and score at 60 yards :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
Will H. Thompson	63	237	68	314	43	209	174	760
R. Williams, jun.	67	251	65	267	43	227	175	745
C. C. Beach	46	176	65	297	44	250	155	723
H. S. Taylor	44	160	50	198	39	181	133	539

Mrs. George S. Hall walked over for the Ladies' Championship with—

60 yards		50 yards		Total	
Hits	Score	Hits	Score	Hits	Score
46	204	42	212	88	416

Eaton, Ohio, was selected as the place for the next National Meeting, and July 7 to 9, 1885, seventeen ladies and twenty-two gentlemen shot. At this meeting Colonel Williams made the National record at the Double York Round, winning the Championship with the entire 10 points :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
R. Williams, jun. .	91	357	78	360	46	278	215	995
C. C. Beach . .	46	172	75	347	44	214	165	733
J. W. B. Siders .	39	173	57	275	41	199	137	647
Will H. Thompson	52	198	53	233	38	176	143	607
W. A. Clark . .	51	197	50	200	40	198	141	595
C. S. Upson . .	42	164	54	188	40	202	136	554
C. J. Strong . .	30	132	53	227	39	151	122	510
M. C. Howell .	39	127	44	174	42	202	125	503

Mrs. M. C. Howell won the National Championship with 5 of the 8 points, Miss Pollock winning 1 point for hits at 60 yards and 2 points for greatest total hits :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. M. C. Howell . .	75	353	46	252	121	605
Miss J. Pollock	78	300	44	216	122	516
Mrs. J. Arthur	65	271	42	210	107	481
Mrs. J. T. Shawan . .	57	217	38	174	95	387

The interest in archery had now centred in the Ohio Valley, and few clubs remained on the Atlantic slope. These were

grouped into an Eastern Association, which held annual meetings, whose members did not attend those of the National Association. With a view to securing the presence of these bowmen, Chautauqua, New York, was selected as the place for the next National Meeting, which was held August 17 to 19, 1886. The effort was a failure, as of the twelve ladies and eleven gentlemen who entered the contests but two were from east of the Ohio. W. A. Clark won the Championship with 8 of the 10 points, Mr. Sidway having won those for hits and score at 100 yards :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
W. A. Clark	43	195	72	298	43	225	158	718
F. Sidway	56	198	52	198	37	155	145	551
C. C. Beach	32	136	56	222	41	169	129	527

Mr. Clark at this meeting established the National Short Range record at the Double American Round :—

60 yards		50 yards		40 yards		Total	
Hits	Score	Hits	Score	Hits	Score	Hits	Score
59	313	60	388	60	396	179	1,097

Mrs. M. C. Howell again won the National Championship, with 7½ of the 8 points, having divided the point for hits at 50 yards with Mrs. Phillips :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. M. C. Howell	82	386	44	238	126	624
Mrs. A. M. Phillips	75	341	44	218	119	559

The National Meeting for the season of 1887 was held at Washington, D.C., July 12–14. Eighteen ladies and twenty-eight gentlemen competed, the largest attendance since 1883. W. A. Clark again won the Championship, securing 7½ of the 10 points, T. F. Scott having won 2 points for hits and score at 100 yards, and L. W. Maxson half a point for hits at 60 yards. No other York Round score was made above 500, the excessive heat taking the vigour out of both archer and bow :—

100 yards		80 yards		60 yards		Total	
Hits	Score	Hits	Score	Hits	Score	Hits	Score
42	134	64	244	43	201	149	579

Mrs. Phillips, who ranked second at Chautauqua, won the National Championship with 7½ of the 8 points, dividing the point for score at 60 yards with Mrs. Arthur :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. A. M. Phillips	83	385	48	246	131	631
Mrs. J. Arthur	81	385	43	225	124	610
Mrs. M. C. Howell	78	362	41	215	119	577
Mrs. C. B. Schoolfield	71	303	41	195	112	498
Mrs. W. A. Bartlett	63	251	39	185	102	436
Mrs. L. W. Maxson	53	223	38	160	91	383

At this meeting the Potomac was introduced as an optional round for those who were unwilling to shoot the York. In 1890 this round was opened to all members of the National Association, and in 1893 it was abolished.

As a result of this meeting at the capital, a decided impetus was given to archery, and at the next National Meeting, held on the Battery Park at the Soldiers' Home, Dayton, Ohio, August 29 to 31, 1888, twenty-one ladies and thirty-five gentlemen shot. Will H. Thompson won the Championship for the third time, with 5½ of the 10 points :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
L. W. Maxson	63	205	63	289	45	245	171	739
Will H. Thompson	66	244	71	309	38	180	175	733
R. Williams, jun.	49	183	67	309	41	181	157	673
H. M. Pollock	42	152	70	282	39	199	151	633
J. Benckenstein	38	146	52	224	36	188	126	558
T. F. Scott	44	200	50	232	28	120	122	552

Mrs. A. M. Phillips won the National Championship with 5 of the 8 points, Mrs. Howell having won 3 points on hits at 50 yards and total hits :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. A. M. Phillips	82	424	42	258	124	682
Mrs. M. C. Howell	80	388	46	252	126	640

The numerous special matches of this meeting diminished to such an extent the number of competitors at the York and National Rounds, that at all ensuing meetings all contests have been thrown open to the entire membership.

So well pleased were the archers with Dayton that the next National Meeting was held there August 27 to 29, 1889, twenty-four ladies and twenty-seven gentlemen shooting. Mr. Maxson won the Championship with 7½ of the 10 points, Mr. Scott having 1 point for score at 100 yards, and Mr. Shawan 1 point for score and ½ point for hits at 60 yards :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
L. W. Maxson	66	220	68	308	46	238	180	766
J. T. Shawan	55	191	46	190	46	240	147	621
T. F. Scott	58	260	49	189	26	116	133	565
C. C. Beach	53	187	45	211	35	135	133	533

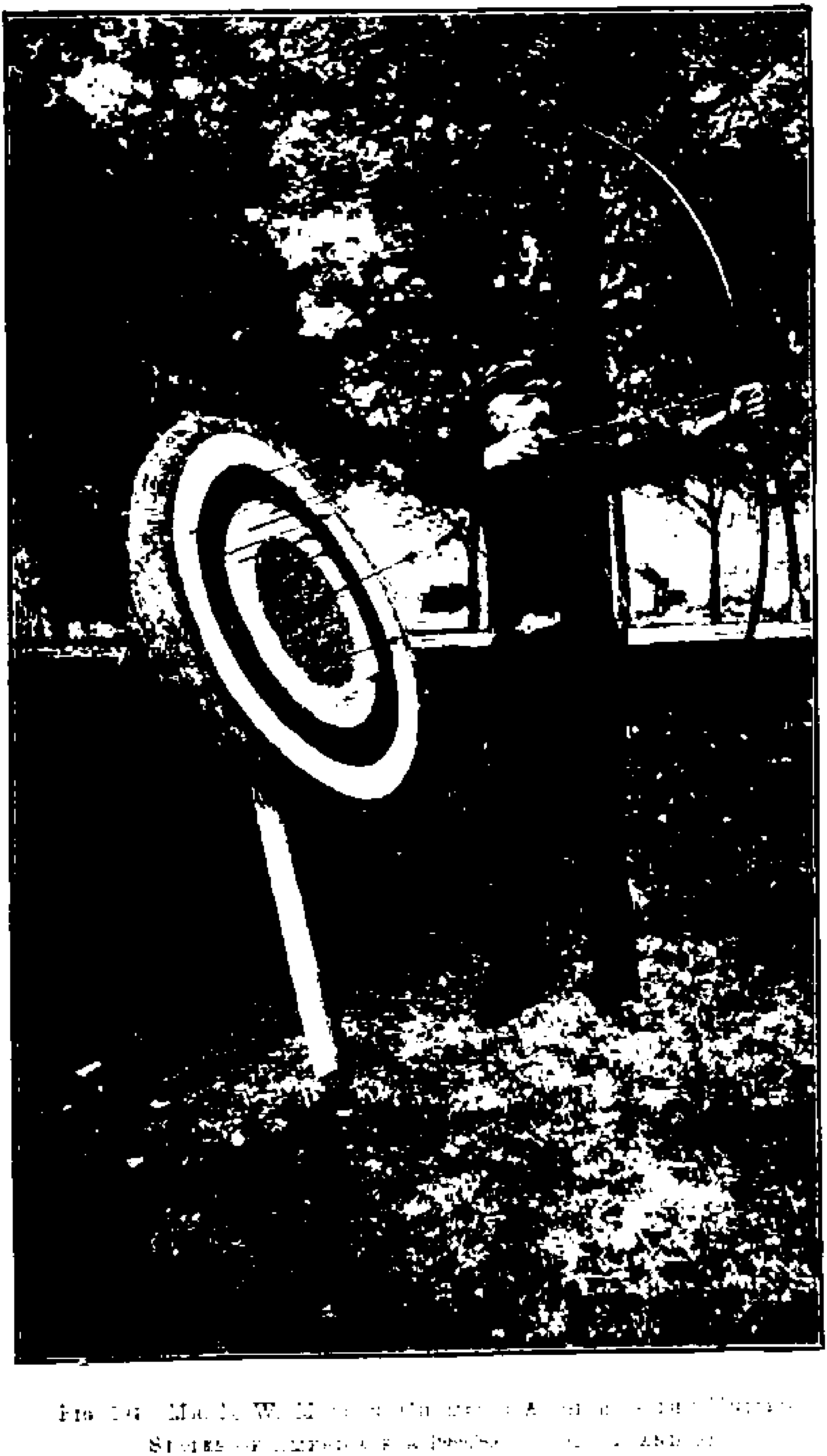


FIG. [illegible] MR. [illegible] W. [illegible] A[illegible]
STATES [illegible]

Mrs. A. M. Phillips again won the Championship with 6 of the 8 points at the Double National Round, Mrs. Kern having 1 point for hits and Mrs. Howell 1 point for score at 50 yards :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. A. M. Phillips	89	481	42	232	131	713
Mrs. M. C. Howell	83	387	44	238	127	625
Mrs. A. Kern	78	374	47	239	125	613
Mrs. J. P. Newman	53	227	40	184	93	411

During recent years the pastime had died out west of the Mississippi, but representatives of all sections of the East had attended the Dayton Meetings. 1890 bade fair to increase the general interest in archery, and it was decided to hold a joint meeting of the National and Ohio State Association at Norwood, near Cincinnati, Ohio, August 19 to 22. During the days immediately preceding, and at intervals during the meeting, a heavy rain fell, so that only enthusiasts attended. Fifteen ladies and twenty-three gentlemen shot; Mr. Maxson won the Championship with 6 of the 10 points, Mr. Knoblaugh having won 4 with hits at 100 yards, hits at 60 yards, and gross hits :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
L. W. Maxson	62	252	59	231	45	235	166	718
C. B. Knoblaugh	73	251	50	196	46	230	169	677
J. T. Shawan	43	177	49	200	42	198	134	584
T. F. Scott	50	202	38	146	35	163	123	511

Mrs. M. C. Howell won the Championship with 7 points, Mrs. A. Kern having 1 point for score at 50 yards.

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. M. C. Howell	79	353	46	226	125	579
Mrs. A. Kern	74	294	42	238	116	532

The thirteenth meeting of the National Association was held at Natural Bridge, Virginia, August 28 to 30, 1891. The meeting was to have begun August 27, but a heavy mountain storm caused its postponement. Nothing could have been prettier, in an artistic sense, than the range where the contests were shot. Nothing could have been worse from the archer's standpoint, the best spot available being on the side of Mount Jefferson, with a fall of from 5 to 8 yards in the 100. The Champion's medal was won by Mr. Maxson with the entire 10 points :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
L. W. Maxson	53	197	66	304	44	218	163	719
T. F. Scott	51	165	54	230	36	188	141	583

Mrs. M. C. Howell again won the National Championship with the entire 8 points :—

60 yards		50 yards		Total	
Hits	Score	Hits	Score	Hits	Score
59	221	45	243	104	464

Twelve ladies and sixteen gentlemen shot.

The fourteenth National Meeting occurred at Fortress Monroe, Virginia, August 24 to 26, 1892, five ladies and

eighteen gentlemen competing. The Championship was won by Mr. Maxson with 8½ points, Mr. Howell having won ½ point each for hits and score at 60 yards, and Mr. Anderson having won ½ point for score at the same distance :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
L. W. Maxson .	58	216	72	310	42	196	172	722
J. W. Anderson .	51	199	56	212	40	210	147	621
M. C. Howell .	42	164	48	190	42	210	132	564
T. F. Scott . .	46	156	52	176	36	190	134	522
J. Benckenstein .	40	158	33	139	40	206	113	503

Mrs. Howell won the National Championship with the entire 8 points :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hits	Score	Hits	Score
Mrs. M. C. Howell . . .	79	353	48	272	127	625
Miss M. L. Williams . . .	64	240	35	149	99	389

An International Meeting was contemplated for 1893, in connection with the Columbian Exposition at Chicago, but, owing to the inability of the local archers to give the matter the necessary attention, it was deemed advisable to hold the National Meeting at some place where there would be fewer counter-attractions. Dayton, Ohio, was selected by the executive committee. There, from August 30 to September 1, gathered one of the finest fields of archers that ever shot in America. Nearly all the veteran bowmen who remained true to the pastime contested, and a degree of enthusiasm was developed that promises well for archery in the coming seasons.

The Championship Medal was won by Mr. Maxson for the

fifth time in succession with 9½ points, Mr. Howell having divided the point for hits at 60 yards :—

Name	100 yards		80 yards		60 yards		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score
L. W. Maxson	59	241	60	220	45	253	164	714
W. A. Clark	45	149	48	200	41	235	134	584
M. C. Howell	45	181	51	193	45	197	141	571
W. H. Thompson	37	155	56	214	40	178	133	547
F. Knoblaugh	49	175	51	199	32	164	132	538
W. B. Robinson	53	161	51	187	36	160	140	508

Twenty-four gentlemen and eight ladies shot at this meeting.

Mrs. Howell again won the Championship with the entire 8 points :—

Name	60 yards		50 yards		Total	
	Hits	Score	Hit	Score	Hits	Score
Mrs. M. C. Howell	84	380	45	247	129	627
Miss Georgie Clark	74	304	40	190	114	494

The Championship records at other rounds shot at the National Meetings are appended :—

Double American Round

Date	Name	60 yards		50 yards		40 yards		Total	
		Hits	Score	Hits	Score	Hits	Score	Hits	Score
1883	R. Williams, jun.	56	290	60	392	60	404	176	1086
1884	,, ,,	57	301	60	356	59	367	176	1024
1885	,, ,,	57	295	60	356	60	404	177	1055
1886	W. A. Clark	59	313	60	388	60	396	179	1097
1887	,, ,,	54	266	60	342	60	384	174	992
1888	L. W. Maxson	59	277	56	280	60	404	175	961
1889	J. T. Shawan	52	256	69	315	60	380	171	951
1890	L. W. Maxson	51	255	59	341	60	400	170	996
1891	,, ,,	54	244	60	362	60	402	174	1008
1892	,, ,,	57	287	60	354	60	400	177	1041
1893	,, ,,	60	322	57	323	58	336	175	983

POTOMAC ROUND

Date	Name	80 yards		70 yards		60 yards		Total	
		Hits	Score	Hits	Score	Hits	Score	Hits	Score
[1] 1887	G. C. Darlington	15	69	26	108	34	184	75	361
1888	W. A. Clark	13	51	12	32	23	119	48	202
1889	M. C. Howell	10	30	14	68	24	120	48	218
1890	L. W. Maxson	16	68	20	86	23	125	59	279
1891	,, ,,	13	51	23	127	22	114	58	292
[2] 1892	,, ,,	14	62	18	62	22	106	54	230
1893	,, ,,	15	57	19	91	21	111	55	259

[1] The Double Round was shot in 1887.
[2] Tied by Mr. Howell. The tie was shot off with six arrows at each distance, Mr. Maxson winning by 13 points.

DOUBLE COLUMBIA ROUND

Date	Name	50 yards		40 yards		30 yards		Total	
		Hits	Score	Hits	Score	Hits	Score	Hits	Score
1879	Mrs. S. Brown	28	132	36	152	46	264	110	548
1880	Mrs. T. Davis	30	112	37	203	47	283	114	598
1883	Mrs. M. C. Howell	46	272	48	316	48	352	142	940
1885	,, ,,	46	232	48	276	48	334	142	842
1886	,, ,,	47	283	48	284	48	326	143	893
1887	Mrs. A. M. Phillips	46	286	48	318	48	376	142	980
1888	,, ,,	45	255	48	300	48	346	141	901
1889	,, ,,	47	267	48	320	48	358	143	945
1890	Mrs. M. C. Howell	48	292	48	320	48	354	144	966
1891	,, ,,	42	224	47	259	48	330	137	813
1892	,, ,,	44	206	48	282	48	330	140	818
1893	,, ,,	45	233	48	302	48	344	141	879

The greatest distances covered by flight shots at the Grand National Meetings are 290 yards by Mr. Maxson at Natural Bridge, in 1891; 285⅝ yards by Mr. Strong, at Dayton, in 1893; 210⅓ yards by Mrs. Kern, at Dayton, in 1889, and 211⅓ yards by Miss E. C. Cooke, at Natural Bridge, in 1891.

The records for team contests, teams of four, are held by the Highland Archers of Wyoming, Ohio :—

Gentlemen, 1888, 96 arrows at 60 yards, 316 hits 1636 score.
Ladies, 1885, 96 arrows at 50 yards, 291 hits 1321 score.

Concurrent with the birth of the National, a number of smaller associations were formed in the several sections of the United States. Of these the leading were the Eastern, before referred to; the Western, embracing the clubs in the Mississippi Valley; the Pacific, composed of the archers in California, and the Ohio State Association. The Western soon became consolidated with the Ohio Association, which now includes the bowmen from that and all neighbouring States. Its meetings have been better attended than those of any other minor association, and it has produced the majority of the really expert archers of the United States. The Eastern Association flourished for several seasons, but now possesses few active members out of the vicinity of Washington, D.C.

The public meetings of the various archery societies show the same spirit of bustle that marks private practice. At both, round is crowded upon round till the programme includes more than double the shooting that is done at the leading English meetings. This is due in part to the long distances that must be travelled, and the outlay of time and expense, which are so great that the competitors have grown to care more for the pleasure of much shooting than for a less number of shafts more effectively delivered. The conduct of the meetings has generally been excellent, and in the three days devoted to the matches of the National Association 639 arrows have usually been shot. To do this, many of the customs of the English range are set aside. The targets are generally set at but one end of the field. Three arrows are shot at an end, but two sets of three are shot before the archers advance to the targets to draw their shafts. Shooting begins at 9 A.M. and, each day closes after sunset. Business meetings occupy the evenings, and, as is the case with most American amusements, pastime and pleasure are forced till they become all but labour. This system is disapproved by the older bowmen, and a spirit has been developed which calls for the curtailing of the number of contests, giving more opportunity for social intercourse on

the range and better scoring at the targets. At the National Meeting for 1893 this feeling took practical form, and one of the Championship Rounds was dropped, an inter-sex match being substituted therefor. The necessity for hurry has prevented that study of each other's style of shooting which is so essential to the onward progress of the sport. Few of the leading archers are able to score better now than they did several years ago.

The difficulty of attending public meetings, other than local, has, even when the pastime has been generally in vogue, limited the attendance, and the small number of opportunities thus offered for match shooting has caused the American archer to fall greatly below his practice average when he has contested at the National Meetings. Colonel Robert Williams was one of the few who could maintain a high average in public, and his Double Yorks of 220—1042, at the Ohio State Association Meeting in 1883, and 215—995, at the National Meeting in 1885, are still the American records. The national record for the Double American Round, made by Mr. Clark at Chautauqua in 1886, has been passed in two of the minor associations, and in the Ohio State meeting for 1883 Colonel Williams scored 177—1129, and at the meeting of the Potomac Valley Archers, October 6, 1888, at Washington, Mr. Maxson scored 177—1193. Mrs. A. M. Phillips, of Battle Creek, Michigan, holds the National records for the Double National Round, 131—713, shot at Dayton, Ohio, in 1889, and Double Columbia Round, 142—980, shot at Washington in 1887. Mrs. M. C. Howell has the honour of being the only American archer with a perfect record for hits at any round at a national meeting. At Norwood, Ohio, 1890, her score was, at the Double Columbia, 144—966.

It is instructive as well as interesting to contrast these records made at public meetings with the highest well-authenticated practice scores. At the Double York Round, Colonel Williams is easily first, having shot the Double Round August 9 and 10, 1885, as follows :—

100 yards		80 yards		60 yards		Total		Aggregate	
Hits	Score	Hits	Score	Hits	Score	Hits	Score	Hits	Score
59 62	293 274	45 45	239 229	24 24	176 152	128 131	708 655	259	1,363

Few of his practice scores have been preserved, but in the fragmentary list of one of his fellow club-members are thirteen Double York Rounds of over 1,000 points, eleven of which were shot in 1883. No other American archer ever gave such promise as did Colonel Williams, and had he continued in practice the American record would without doubt have been greatly advanced.

For many years the record for the Double American Round remained as made by Mr. Clark at Wyoming, Ohio, August 22, 1883:—

60 yards		50 yards		40 yards		Total	
Hits	Score	Hits	Score	Hits	Score	Hits	Score
30	182	30	224	30	240	90	646

July 11, 1890, at Washington Grove, Maryland, Mr. Maxson raised this record, scoring in succession at the Single American Round:—

60 yards		50 yards		40 yards		Total	
Hits	Score	Hits	Score	Hits	Score	Hits	Score
30	186	30	202	30	242	90	630
30	204	30	210	30	234	90	648
30	210	30	216	30	240	90	666

Many bowmen have recorded fine scores at the Ohio Round (ninety-six arrows at 60 yards) at public meetings. At

the Ohio State Meeting, in 1883, Colonel Williams scored 96—590; at Dayton, in 1889, Mr. Maxson scored 93—541, and at Natural Bridge, 91—531. In inter-club and other matches several higher records have been made, notably those of Colonel Williams in 1883 of 96—604, of A. Houston 94—604, and Mr. Clark 95—597, August 15, 1883, in a team contest between the Highland Archers of Wyoming, Ohio, and a picked team of Chicago bowmen. In a match between the same teams, August 8, 1883, H. S. Taylor of Chicago scored 93—607.

The following scores, made in practice by Mrs. Howell, the present lady champion, are also worthy of record :—

DOUBLE COLUMBIA ROUND, JUNE 30, 1884

50 yards		40 yards		30 yards		Total		Aggregate	
Hits	Score	Hits	Score	Hits	Score	Hits	Score	Hits	Score
23	149	24	184	24	182	71	515	142	1,048
23	163	24	174	24	196	71	533		

SINGLE NATIONAL ROUND, JULY 25, 1383

60 yards		50 yards		Total	
Hits	Score	Hits	Score	Hits	Score
45	273	24	156	69	429

DOUBLE NATIONAL ROUND, JUNE 26, 1883

60 yards		50 yards		Total		Aggregate	
Hits	Score	Hits	Score	Hits	Score	Hits	Score
40	214	22	122	62	336	131	735
45	263	24	136	69	399		

As a rule American archers have favoured the short distances for practice, and at these some most excellent records have been made. A few clubs have continued their meetings throughout the year, shooting indoors during the winter. The Brooklyn Club for several seasons used the 14th regiment Armoury. That good archery practice is possible indoors is shown by the records of a match shot between Messrs. Nash and Brownell, December 17, 1882 :—

NINETY-SIX ARROWS AT 60 YARDS

Name	1st 24		2nd 24		3rd 24		4th 24		Total	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score	Hits	Score
Mr. Nash . .	24	136	24	146	24	130	24	154	96	566
Mr. Brownell .	23	141	21	111	21	101	23	141	88	494

Two additional scores were shot by Mr. Nash at 60 yards, making 23—157 and 24—148, total 143—871 for the 144 arrows. The only miss was a rebound, which, under the present system of scoring, would have counted 1—1, making the total 144—872. The 60-yards range has always been a favourite with American archers, and the annual Thanksgiving Day match, and most team contests, have been shot at this distance.

Prior to the adoption of the American as a Championship Round by the National Association, more attention was paid to the York than it has since received. That the American bowmen were rapidly developing into fair long-range archers is apparent from an inspection of the records of any of the public meetings of 1882 and 1883. Private matches at the York Round were also frequent, and I note one in October 1882, at the Double York, between three bowmen whose names are on the Championship roll of the National Association :—

Name	100 yards		80 yards		60 yards		Total		Aggregate	
	Hits	Score	Hits	Score	Hits	Score	Hits	Score	Hits	Score
R. Williams, jun.	50	254	45	209	21	137	116	600	229	1,169
	48	256	42	184	23	129	113	569		
W. A. Clark	48	198	40	182	24	124	112	504	227	1,099
	47	219	44	228	24	148	115	595		
Will H. Thompson	41	173	44	226	23	121	108	520	225	1,063
	50	194	43	217	24	132	117	543		

Several specialities have been tried at the various meetings to give variety to the programme; those that have most interested the spectators were the flight and turtle-back shooting. In the latter a target is thrown upon the ground beyond a tree, or some other intervening object, and the archers, casting their arrows high into the air, seek to hit it. As the arrows are volleyed, the sight forms one of the prettiest features of the meeting. This is a mere adaptation of the manner in which the Indians kill turtles on the Orinoco River in South America. Roving has been but slightly practised in the United States. A few of the most expert shots have practised wing shooting with the bow, and Mr. Maurice Thompson holds the public record of thirty-eight and private record of forty-six glass balls out of fifty thrown up at twelve yards distance.

At the beginning of the present archery epoch, equipments were either crudely made by amateurs or imported from abroad. As the pastime grew in popular favour, the demand for bows, arrows, &c., offered strong inducement for American manufacturers to compete in their production. Several of the large sporting houses and fancy-wood-workers, obtaining English equipments as models, quickly put upon the market some good tackle. Instead of the customary deal of imported arrows, a heavier yellow pine was often used in the production of the shafts, thus giving greater stiffness for a given weight. Many experiments were tried, but an arrow was finally adopted,

similar to the balloon feathered shaft of England, which is now in general use.

Bows were also manufactured, some of excellent character. W. N. Granger, of Buffalo, N.Y., before retiring from the business, produced some of the finest weapons ever used in this country. These were close copies of the English bow, but were soon superseded in the hands of many by the raw-hide backed weapon, invented by Mr. Sutton, of New York. This was made by cementing a strip of green hide upon the back of a stave of yew, lemon, or other wood. This gave to these bows a sharp reflex action, and enabled dense breakable woods of quick cast to be used with safety. These weapons were based on the composite bows of the North American Indians (described in Chapter III.) These bows never became generally popular, owing to a tendency to grow sluggish with use. They were, however, capable of excellent service, and it was with a 51-lb. bow of this kind that Mr. Maxson shot his three leading American Rounds before referred to.

Piece-bows also sought the popular favour, and one of three pieces, bent to Cupid shape, was especially worthy of notice. Its high arched limbs, so pleasing to the eye, insured its ruin; for the bow could not be kept well in hand, and arrows had a bewildering tendency to throw to one side of the mark. The crest of the limbs soon gave way, the fibres having been weakened in bending the blank or stave. Few of these weapons found favour with veteran archers.

Another bow was put on sale, but never won success, save as a toy; a reversible weapon, elliptical in section, whose limbs were inserted in a socketed handle, with a central opening. The inventors claimed that by passing the arrow through the centre, instead of to one side of the weapon, greater accuracy of aim was possible. This device quickly led to the production of another—an arrow with bristles set in kerfs or slots, instead of feathers. The latter were quickly ruined in passing through the bow-handle, but the bristles maintained their stiffness after long use.

As archery declined in popular favour, the production of good tackle ceased, and for several years nearly all goods have been imported from England.

America furnishes many woods well adapted for the manufacture of bows. Mulberry, bois d'arc or Osage orange, sassafras, southern cedar, black locust, black walnut, slippery elm, iron wood, mountain ash, and the common hickory are all fair bow timber; but the lack of expert makers has rendered it easier to secure an English lance-wood or yew of good quality than to obtain a satisfactory weapon of native material and workmanship. Californian yew affords an excellent bowstave, but little of it has been used, as bowmen—who prefer the yew tree—generally select the denser growth of Europe. Some most excellent weapons were made from this material in San Francisco and New York about 1880 to 1882, and, when backed with raw hide or hickory, shot as well as Spanish yew of much greater cost.

Bois d'arc, which is especially abundant throughout the Mississippi Valley, gives a bow of remarkably quick cast, and, when backed with hickory, makes a weapon that is well adapted to the climate of the United States. The dense bone-like wood is little affected by changes in temperature, and retains nearly its full power after long-continued use. This is an essential quality for a bow in America, for, even during the course of a summer day, the range of temperature and humidity of the atmosphere are such as greatly to alter the cast of a weapon made from any of the softer woods. As a result, a lance or other hard-wood bow is preferred by most archers to the finest yew.

Northern hemlock and southern cedar do excellent service for a time, but the fibre of the wood becomes compressed and they soon pack and lose their elasticity. Mulberry has proved an excellent wood for a hunting bow, standing rough usage well, but owing to its somewhat heavy action has been little used before the targets. Except in weapons made by amateurs few of the native woods have had a fair test; but even these

have shown that, when well made, many of the American woods afford excellent material for either self or backed bows.

Lacking in traditions of the pastime, engrossed in the struggle for riches and position—which is a marked characteristic of all new countries—with no aristocracy of wealth and leisure intent on amusement, America has not afforded an auspicious field for the popular and permanent engrafting of archery. Capital has centred in the larger cities, and in few of these are found public parks adapted to the sport. Ranges have been sought in the suburbs, often with no ready means of rapid transit. As the membership of clubs has commonly been drawn from the mercantile and professional classes, only the closing hours of the day have been given to club practice. Such have been some of the hindrances to the growth of archery; but these alone do not account for the rapid decline of a form of field sport that for a season swept the country from ocean to ocean. Two causes have been most potent. In their desire to excel, the older bowmen have deserted the shorter ranges, time permitting but one class of distances to be shot, and few experts have been found on the club grounds with leisure or good will to properly coach the novice. Few take naturally to the use of the bow, and the untaught enthusiast has quickly left the range, discouraged by his want of success, and with a distaste for a sport which he has never understood. The only clubs which have maintained a vigorous growth throughout their history are those which have adhered to the shorter distances at regular club meetings. Then, too, the lack of a really first-class publication, open to the scores and discussion of matters of common interest to the widely-scattered bowmen, has hindered the active growth of the pastime. Printer's ink largely caused the revival of archery in this country, and by printer's ink—if at all—it must maintain its hold on the American public.

Tennis and other sports less exacting in time and practice have beguiled many erstwhile archers from their fealty to the bow, so that prominent archers are now no more numerous

than clubs were in 1882 or 1883. America is not lacking in material from which in time a large body of archers may be drawn, but those with leisure and taste for the sport are so scattered that compact club organisation seems at present impossible.

The National, Eastern, Ohio, and recently-revived Pacific Associations are slowly gaining ground, while individual archers, here and there, are taking up the pastime. The press is alert for articles on the subject, and, during the past season (1893) archery has largely supplanted tennis at several of the summer haunts of wealth and fashion. These are auspicious signs, but indicate rather the slow and steady growth of archery than its general adoption as a popular national pastime.

CHAPTER XXVII

BIBLIOGRAPHY, PICTURES AND PRINTS [1]

By Colonel Walrond

The Bibliography is divided into three parts: books relating to Societies come first, then the MSS. in the British Museum, followed by the General List of Works which mention Archery, the first and third parts being arranged chronologically; but when more than one edition of a book is given, they come consecutively.

Works of fiction and Robin Hood literature are, with a few exceptions, omitted, and the description of each book is condensed as much as possible to save space.

[' M.' signifies that the work is in the British Museum; ' G.,' the Guildhall; ' B.,' the Bodleian; ' T.S.R.,' an entry taken from a Transcript of the Registers of the Company of Stationers, London, 1875.]

I. SOCIETIES

Royal Guard of Scottish Archers, 1418

L'Escosse Françoise. Discours des alliances commencées depuis l'an sept cents septante sept, et continuées jusques à present, entré les couronnes de France et d'Escosse. . . . A Paris, chez P. Mettayer . . . 1608. 4to. ff. 30. Dedication signed A. Houston.—M.

The Martial Atchievements of the Scots Nation . . . By Patrick Abercromby, Edinburgh, 1711-1715. 2 vols. fol. Vol. 2, pp. 528-9.—M.

[1] A portion of the Bibliography appeared in the *Archer's Register*, 1892 and 1893.

PAPERS RELATIVE TO THE ROYAL GUARD OF SCOTTISH ARCHERS in France. Printed at Edinburgh, 1835. 4to. pp. xvi.-84. Pp. 47-84, Reprint of 'L'Escosse Françoise.' Issued by the Maitand Club, Glasgow.—M.

THE SCOT ABROAD. By John Hill Burton. W. Blackwood & Sons, Edinburgh, 1864. 2 vols. 8vo. Vol. i. pp. 47-59, R. G. of S. A.—M.

THE SCOTS MEN-AT-ARMS AND LIFE-GUARDS IN FRANCE from their formation until their final dissolution, A.D. 1418-1830, by W. Forbes Leith. Edinburgh. . . . 1882. 2 vols. 4to.—M.

FRATERNITY OF ST. GEORGE,
afterwards the HONOURABLE ARTILLERY COMPANY, 1537

29° Nouembris, 1615. John Trundle—Entred for his Copie under the handes of Master Tavernor and Master Lownes Warden a poeme called *The Artillery Garden* by *Thomas Dekker*. . . . vjd. (T.S.R., iii. 578).—This poem was published in 1616.

LONDONS ARTILLERY, briefly containing the noble practise of that wo[r]thie Societie; with the moderne and ancient martiall exercises, natures of armes, vertue of Magistrates, antiquitie, glorie and chronography of this honourable cittie. . . . By R. N. Oxon. London, printed . . : for William Welby, 1616. 4to. pp. viii.-104. Dedications signed Richard Nic[c]olls. Pp. 86 88, 93-94, Archery.—M.

12th April, 1639. Ra[l]ph Mabb—Entered for his copie under the handes of Master Wykes and Master Rothwell Warden. The summons or bills for the Artillery Garden vjd. (T.S.R. iv. 464.)

ROYAL PATENTS, AND LETTERS, for incorporating and encouraging the H. A. C., viz:—1. The patent of Henry VIII. 1537; 2. The patent of James I. 1605; 3. The patent of Charles I. 1633; 4. The letter of William III. 1690; 5. The letter of Queen Anne. 1702; 6. The letter of George I. 1715; 7. The letter of George III. 1766. London, printed by Stephen Clark, . . . 1777. 8vo. pp. 40. Folding plan of Finsbury Fields.

THE HISTORY OF THE H. A. C., of the City of London, from its earliest annals to the peace of 1802. By Anthony Highmore. London, printed for the author by R. Wilks . . . 1804. 8vo. pp. xvi.-600. Frontispiece and two folding plates (one of the marks in the Finsbury Fields, 1737).—M. G.

THE HISTORY OF THE HONOURABLE ARTILLERY COMPANY. By Captain G. A. Raikes. With Maps and Illustrations. London, Richard Bentley and Son, New Burlington Street, 1878. 8vo. 2 vols. pp. xxxii.-491 and xii.-563.—M.

INCIDENTS IN THE HISTORY OF THE H. A. C. By Captain Woolmer Williams. . . . Illustrated. London, R. Bentley and Son . . . 1888. 8vo. pp. xii.-203.—M.

COMPANY OF FINSBURY ARCHERS

19th Novr., 1590. John Pyrryn—Entred for his copie under Master Cawoodes hand The Tectonicon of Finsbury feildes. vj[d]. (T.S.R., ii. 568.)

AYME FOR FINSBURIE ARCHERS, or, an alphabeticall table of the names of every marke within the same fields, with their true (or due) distances, both by the map and dimensuration of (or with) the line, published for the ease of the skilfull and behoofe of the younge beginners in the famed exercise of Archerie. By J.J. and E.B. Printed at London by R.F., and are to be sold at the sign of the Swan in Grub Street by T. Sergeant, 1594. 16mo. Another edition—'to be Sold at the sign of the Frier, in Grub Street,' 1601. Another edition—1604.

MS. ARCHERS' MARKS IN FINSBURY FIELDS.—Per me Henricus Dickmanus nomine: scribebam hunc librum et scriptus erat in anno Domini 1601, quarto die Mayij.—London, 1601. 24mo. ff. 93, paper.—The Marks are in a b c order. Lib. Soc. Ant. Lon.

AYME FOR FINSBURIE ARCHERS . . . Newly gathered and amended by James Partridge. London, printed by G. M. for John Partridge, and are to be sold at the signe of the Sunne in Paul's Church Yard, 1628. 24mo. pp. x.-148. Preface signed J. N.—M.

COLLECTION OF THE NAMES OF MARKS in Finsbury Fields. London, 1728. 24mo. (Watt, B.B.) Possibly the date is an error for 1628 or 1738.

AIM FOR FINSBURY ARCHERS: or, a table of all the names of the marks now standing in the fields of Finsbury; with their true distances from each other. Also a plan of the said fields and marks by which one may know their true bearing. Likewise a list of all the names of such as have been Captains or Lieutenants of the Easter—or Whitson—Target, for the year 1717 to this present year 1738.—London, 1738. 24mo., pp. 16. Frontispiece and folding MS. map, inscribed:—A plan of all the marks belonging to the Company of Finsbury Archers, in the said fields of Finsbury, with the true distance from each other as they now stand May the 20th, 1737.—G.

THE BOWMAN'S GLORY; or archery revived. Giving an account of the many signal favours vouchsafed to archers and archery by those renowned monarchs, King Henry VIII., James, and Charles I. As by their several gracious commissions here recited may appear. With a brief relation of the manner of the archers marching on several days of solemnity. Published by William Wood, marshal to the Regiment of Archers. London, printed by S.R., and are to be sold by Edward Gough at Cow-Cross, 1682. 12mo. pp. xvi.-80. The first part in B.L. Pp. 33-80, A remembrance of the worthy

show and shooting by the Duke of Shoreditch, and his associates the worshipful citizens of London, upon Tuesday the 17th of September, 1583. Set forth according to the truth thereof to the everlasting honour of shooting in the long bow. By W. M.—M. 2nd Edition. London. Printed by George Larkin, Printer to the Regiment of Archers, 1691.—B. (Reissue with fresh title and dedication.)

ARTICLES AGREED ON BY THE SOCIETY OF ARCHERS for the well ordering and regulateing of their game yearely to be shott at in Finsbury Fields or other place nere adjoyning and more especially for the present yeare 1687 (Around the margin of which is :—)

AN ACCOUNT of the number of Archers that have shott at the Generall Targett from the year of our Lord 1658 unto this present year 1687 (and continued to 1757) in company with the severall Captains and Leieutenants whose severall and respective names are here under written in the severall collums. —On a sheet of parchment in B.M. MS. Add. 28801. These Articles were printed in the 'Gentleman's Magazine' for 1832 (Vol. 102, part 1, Supplement).

RULES FOR THE EASTER, WHITSUN, AND YEARLY FEAST and eleven score Targets for the Company of Finsbury Archers and General Society of Archers, as revised 1754, 3 vols. MS. 8vo. MSS., 193.—G. The names of the Captains and Lieuts. are given for the Easter Target from 1658 to 1757, for the Whitsun from 1692 to 1761, and of the Stewards of the Yearly feast and Captains and Lieutenants of the eleven score Target from 1653 to 1756, but the lists are not complete.

RULES AND RECORDS of the Society of Finsbury Archers. MSS. Add. 29792 B.M. Copy of part of the preceding MS. also containing other matter not in the above. In the handwriting of W. Latham.

LONDINIUM REDIVIVUM, or an ancient history and modern description of London . . . By James Peller Malcolm . . . London, printed by John Nichols and Son . . . and sold by Longman . . . 1802-1807. 4 vols. 4to. Vol. iv. p. 26, and plan of Finsbury Fields by William Hole, copied from the original in the Bodleian.—M.

SCORTON ARROW MEETINGS, 1673

An old parchment roll on which the articles agreed to by the Society of Archers at Scorton on the 14th May, 1673, for the regulating of the annual exercise of shooting at the targets for a silver arrow, are engrossed. Excepting for the years 1682, 1698, 1699, 1701, 1747-1786, 1789, 1799-1809, this roll also contains the names of the annual captains and lieutenants from 1673 to the present time.

ACCOUNT OF THE ANNUAL SHOOTING for the ancient silver arrow, commonly called the Scorton arrow, from 1673 to 1866.—MS. fol. pp. 200. Contains the 'articles,' localities and dates of meetings, names of annual captains and lieutenants, and signatures of the archers present at the different meetings. At the end of the 'articles' is the following entry :—'N.B. The original articles of this society being almost defaced and obliterated, the gentleman archers present on the eighteenth of June 1766 bought this book for the same to be fairly transcribed herein (and also to enter any new rules or orders).' Fifteen signatures attest the accuracy of the transcript. The annual accounts are not consecutive ; the long omission in the parchment roll described above, 1747 to 1786, with the exception of the years 1773, 1774, 1777, 1779, and 1780, is supplied in this book.

ACCOUNT OF THE ANNUAL SHOOTING for the ancient silver arrow, commonly called the Scorton arrow, from 1867.—MS. fol. 102 pages of this book are at present written in.

ROYAL COMPANY OF ARCHERS, 1676

ARCHERIE REVIV'D : a poëtical essay, penn'd upon occasion of the intended muster of the C. of A. in Scotland, June 11th, 1677. . . Edinburgh, printed by the heir of Andrew Anderson, . . . 1677. 4to., pp. viii.-10. Dedication signed W.C. Probably by William Clerk.

RULES SET DOWN by the Lord Provost Baillies and Council of the City of Edinburgh to be observed in shooting for the Edinburgh Arrow. Edinburgh, printed by the Heirs and Successors of Andrew Anderson Printer to the Queens most excellent Majesty City and College 1709. Folio Broadside. (Coll. J. B. Paul.)

Ad Cives Edinburgenses de Pompa Regiorum Sagittariorum habita Junii xiv. 1714. Folio Broadside. (Coll. C. J. Longman.)

Ad Illustrissimum Davidem Verniarum Comitem Regiæ Sagittariorum Scotorum Cohortis Ducem, &c. in Certamine Sagittario Edinburgensi Victorem. Signed T. K. 1714. Folio Broadside. (Coll. C. J. Longman.)

'Who can with so much Envy be possest.' Folio. Adv. Lib. Edin.

[The three above are reprinted in 'Poems in English and Latin.']

A DISCOURSE CONCERNING THE CHARACTER OF A MAN OF GENIUS. By Mr. Hepburn . . . With a Poem on the Young-Company of Archers. By Mr. Boyd . . . Edinburgh, 1715. 4to. pp. vi.-18. Pp. 15-18, A Poem on the Young-Company.—M.

POEMS IN ENGLISH AND LATIN on the Archers and R.C. of A. By several hands. Edinburgh, 1726, 12mo. pp. 108.—M.

ROYAL VALOUR, a Poem upon the Honourable Company of Archers. ..A view of the Archers as they perambulated through the city in order to shoot for the silver arrows on the links of Leith, July 11, 1732. Edinburgh, Printed in the year 1732. (MS. copy Col. C. J. Longman.)

LA PARADE DES ARCHERS ECOSSOIS, poeme dramatique, adressé au trés-haut et puissant Prince Jacques Duc d'Hamilton et Brandon, &c., Capitaine General, et a tous les Officiers de la Compagnie Royale des Archers Ecossois. Imprimée a Edinbourgh, l'an 1734. 4to. pp. 12. By James Freebairn.

A SHORT HISTORY to the commendation of the R. A., with a description of six of the dukes in Scotland, especially Argile. Written by the Tinklarian Doctor in the year 1734. . . [Edinburgh] Printed in the year 1734. 8vo. pp. 8. By W. Mitchell. —M.

THE SCOTS MAGAZINE, Edinburgh, vol. xxxviii. p. 385 (July, 1776), *On Mr. St. Clare of Roslin* and *his band of Royal Scots Archers.* (Four eight-line verses, dated July 8th, 1776, and signed Wal[ter] Johnson. Also a Latin version in twenty lines.—M.

THE HISTORY OF EDINBURGH. By Hugo Arnot. . . . Edinburgh, 1779. 4to. pp. 677. Pp. 355-356, Of the R. C. of A.—M.

THE NEW PICTURE OF EDINBURGH. Edinburgh (1814?). 12mo. pp. 344. Pp. 164-168. R. C. of A.—M.

CHRONOLOGICAL LIST of the R. C. of S. A. . . . Edinburgh, printed by P. Neill, 1819. 8vo. pp. 64-16. The second part contains the names of the members who have gained prizes.

REPORT RELATIVE TO THE PROCEEDINGS of the R. C. of A. upon the visit of H.M. King George IV. to Scotland August 1822. 8vo. Edinburgh, 1822.

LIST OF THE R. C. OF A., the King's Body Guard for Scotland, 1st January, 1834. Edinburgh, 1834. 4to. pp. ii. 24.

LIST OF THE R. C. OF A., Queen's Body Guard for Scotland. Edinburgh: printed by W. Burness. . . . 1859. 4to. pp. 86. Pages 39-86 is a 'List of archers who have gained prizes.'

DOMESTIC ANNALS OF SCOTLAND from the Revolution to the Rebellion of 1745. By Robert Chambers . . . W. & R. Chambers, Edinburgh. . . . 1861. 8vo. Pp. 495-497. Historical note on R. C. of A.—M.

THE HISTORY OF THE R. C. of A., the Queen's Body Guard for Scotland, by James Balfour Paul, Advocate of the Scottish Bar, one of the members of the Royal Company. Published under the authority and by the direction of the Council. William Blackwood and Sons, Edinburgh and London, 1875. 4to. pp. x. 394. 12 plates, 42*s*.—M.

REPORT BY THE SECRETARY ANENT THE MUSTER of the R. C. of A. . . . 17th August, 1876. Edinburgh, 1877. 4to. pp. 15.

REPORT OF THE PROCEEDINGS of the R. C. of A. . . . 25 August, 1881. 4to. pp. 12.

R. C. OF A. Report by the Senior Secretary on the occasion of Her Majesty's visit to Edinburgh in August, 1886. 4to. pp. 16.

ROYAL TOXOPHILITE SOCIETY, 1781. The Rules and Orders of the R.T.S. have been printed at various times from 1781 to 1876, both with and without lists of members.

A HISTORY OF THE R.T.S., from its institution to the present time. Edited by a Toxophilite (T. Dawson), 1867. Printed (by H. Abraham, Taunton) for private circulation only. 8vo. pp. ii.-126, errata leaf. 1 plate. 2nd Edition 1870, pp. iv.-308, errata leaf. 1 plate.

In 1870 and 1871. AN ACCOUNT OF THE TOXOPHILITE SEASON, by W. Butt, Hon. Sec., was printed in 12mo. (10 pp.). None were printed for 1872 3-4; but in 1876 the 'Account, &c.' for 1875 was printed, and they have been continued annually ever since, each year being in 1 vol. 12mo. of from 14 to 39 pages, which also contains the Rules. From 1875 to 1885 they were written by W. Butt, from 1886 to 1889 by C. E. Nesham, from 1890 to 1892 by F. L. Govett, and for 1893 by H. Walrond, the Honorary Secretaries for the respective years.

ROYAL KENTISH BOWMEN, 1785, RULES OF THE, August 28th, 1789. 24mo. pp. 64. Contains a list of members.—M.

WORDS OF GLEES, sent in as candidates for the gold medals presented by the Royal Kentish Bowmen, 1799. London. 8vo. pp. 48.

WOODMEN OF ARDEN, 1785. PHILOTOXI ARDENÆ; the Woodmen of Arden, a Latin Poem by John Morfitt, Esq. . . . with a translation in blank verse. . . . Birmingham (1788). 4to. pp. 15-xxvi.-8.—M.

PRESENT STATE OF THE SOCIETY OF THE UNITED W. of A. Broughton Archers and the Lancashire Bowmen . . . Boden, printer, Stafford—1791, 8vo. pp. 10.—M.

RECORDS OF THE W. OF A. from 1785, with roll of members of the Society and other notes mainly compiled from the Archives of the Forest. Printed for Private Circulation 1885. 8vo. pp. 152. The two preceding are reprinted at the end of this book.

ROBIN HOOD'S BOWMEN, 1787. RULES AND ORDERS OF THE SOCIETY OF ARCHERS, named. London, printed in the yeare 1790. 24mo. pp. 16.—M.

ROYAL BRITISH BOWMEN, 1787. REGULATIONS OF THE SOCIETY of. Wrexham, 48mo. Reprinted 1835, &c.

JOHN O'GAUNT'S BOWMEN, 1788. RULES AND ORDERS of the SOCIETY of. Revised and Printed 1791. 16mo., pp. iv.-18.—M.

RULES AND REGULATIONS of the Society of J. o'G.'s Bowmen revived at Lancaster in the year 1788 and again revived in 1820. Revised and reprinted in 1850, 1861, 1869, 1876 and 1886. 8vo. pp. 18 to 40.

HAINAULT FORESTERS, 1789. RULES AND REGULATIONS of the. 1789. 16mo. pp. 22.—M.

LOYAL ARCHERS, LADY WELL LODGE. 1789. GENERAL RULES and orders of the. May 29, 1790. List of Members. In MS. ff. 7 18 in Add. 6299.—M.

ROYAL SOUTHAMPTON ARCHERS, 1789. Abridged Rules and List of Members are given in 'The Southampton Guide,' 10th Edition (1790), 12mo. pp. 41-47.—M.

ROYAL SURREY BOWMEN, 1790. RULES AND ORDERS to be observed by the Society of. London, 1790. 12mo. pp. 18.—M. A list of Members of the R. S. B. London (1793?). 16mo. pp. 10.

WOODMEN OF HORNSEY, 1790. RULES AND ORDERS of the Society of the. Instituted 1790. Corrected 1791. 12mo. pp. 16.—M.

UNION SOCIETY, 1790. REGULATIONS for the. Established at Harlow in 1790 and removed to Harlow Bush Common in 1792. London, 12mo., pp. 31. List of members with their colours and mottos.—M.

KEDLESTON ARCHERS, 1790. RULES agreed upon by the. List of Members. In 5 ff. MS. Add. 6316.—M.

EAGLE BOWMEN, 1 JAN., 1793. THE RULES OF THE. 12mo pp. 22. List of Members in MS.—M.

MERCIAN ARCHERS. THE RULES OF THE SOCIETY of. July 9th, 1804. List of Members. In MS. ff. 19-31, Add. 6299.—M.

ROYAL FORESTERS, 1674; REVIVED 1812. THE STATUTES AND REGULATIONS of the order of. 12mo. pp. 19, Arms and five plates of badges.—M.

GRAND NATIONAL ARCHERY SOCIETY, 1844. Accounts of the Annual Meetings, by the Hon. Sec. were printed annually from 1844 to 1868, 1870, 1871, by Messrs. Hargrove, York. In 1869 no account was issued. The first account is on one sheet folio, the others in 8vo., and consist of from 12 to 24 pp. each. The Scores and Prize Lists of the Meetings of 1872 to 1876 are in the 'Archer's Register,' 1877.

GRAND WESTERN ARCHERY SOCIETY, 1861. RULES AND REGULATIONS OF THE G. W. A. S., with a sketch of the origin of the Meetings and Prize Lists from the commencement in 1861. Exeter, 1883. 8vo., pp. xii.-77. By H(enry) W(alrond). Reissued with fresh title and 13 extra pages, 1886. Reissued, 1892. Pp. xvi.-106.—M.

NATIONAL ARCHERY ASSOCIATION OF THE U. S. OF AMERICA, 1879. CONSTITUTION AND RULES of the N.A.A. of the U.S.A. 1879-81. Brooklyn, 1881. E. Pearsal, editor. 12mo. pp. 32. Amended official edition. Eaton, Ohio, 1885. Reprinted at Washington D.C., 1888. 12mo., pp. 28 (contains list of Prize Winners).

II. MANUSCRIPTS IN THE BRITISH MUSEUM

HARL. 135. An answer [in favour of archery] to contrarie opynions militairie. By, and in the handwriting of, Sir John Smythe. A reply to A breefe discourse, &c., by Humfrey Barwick. 1590. Fol. ff. 110.

HARL. 168. List of the Levies, 1588.

HARL. 4828. Folio. ff. 33. Fol. 2b. Archers or Long Bowes.

LANS. 160. Minute of statutes relating to archery fit to be repealed, A.D. 1610. Fol. ff. 338.

ARUNDEL 329. Sixteenth cent. 8vo., ff. 29. Ff. 26–29. The Order of shoting with the cross bow. A poem by M. Beele.

SLOAN 1950. Seventeenth cent. 4to., ff. 112. Ff. 47-48. Notes on archery. By Nehemiah Grew.

ADD. 6299. Rules and lists of members of archery societies. 12mo., ff. 31.

ADD. 6314 to 6320. Miss Banks' Collection. Notes, extracts, cuttings from books, &c., &c., relating to archery, and patterns of archery ribbons.

ADD. 22911. Correspondence of Dr. Covel, vol. i. folio, ff. 504. Fol. 336. De Arcu. Latin treatise early 18th century.

ADD. 23489. Arabic. Taibugha Al-Ashrafi Ghunyat Al-Tullab Fil-Rami Bil-Nushshab. Treatise on Archery. Fol. ff. 139.

ADD. 28801. Cuttings, anecdotes, observations, &c., relating to Archery. By Sir Samuel Rush Meyrick. Fol. ff. 160.

ADD. 29788 to 29792. W. Latham's Collection. Extracts, copies and collections for a history of Archery.

EGERTON, 2644. Correspondence of the family of Barrington, 1490-1628. Vol. I. Fol. ff. 310. F. 27. Privy Council letter in support of archery.

ADD. 33494. Catalogue of Books, Prints, &c. belonging to Sir J. Banks, 18th and 19th Century, Fol. ff. 154. Ff. 61–6 Archery Books, Prints and drawings.

III. GENERAL LIST

ELENCHUS ET INDEX RERUM MILITARIUM. . . . Robertus Valturius . . . Johannes ex verona . . . impressit An. MCCCCLXXII. Folio, unpaged, without signatures or catch words. Liber x. Woodcut of Archer, crossbow, and Hand-gun man on chariot, &c.—M. Reprinted 1483, 1512, 1532, &c.

CY COMMENCE LE LIVRE DU ROY MODUS et de la Royne Racio le quel fait mencion comant on doit deviser de toutes manieres de chasses . . . Imprime a Chambery par Antoine Neyret lan de grace mil quatre cens octante et six le xx jour de Octobre. —B.L. Fol. sig. A to N. iij. woodcuts.—M. Reprinted at Paris by Jehan Trepperel. 4to. n.d. (not seen, Brunet).

SENSUYT LE LIVRE DU ROY MODUS . . . et aussi le substillite d'archerie. Imprimé 1526. 4to. ff. xciiii.

LE ROY MODUS DES DEDUITZ DE LA CHACE. Venerie et Fauconnerie. A Paris par Guillaume le Noir a la Rose Blanche Couronnee, 1560. 8vo. ff. 104.—M.

LE LIVRE DU ROY MODUS . . . par Elzia Blaze . . . Paris, 1839. B.L. Fol. ff. 139.—M.

THE BOKE NAMED THE GOVERNOUR, devised by Sr. Thomas Elyot Knight. Londoni in edibus Tho. Bertheleti. An. Dñi. 1531. 4to. ff. v.-258. F. 98 That shotyng in a long bowe is principall of all other exercise. B.L.—M. Reprinted 1546, 1547, 1564, 1580, 1834 and 1880.

THE BOKE OF THE JUSTYCE OF PEAS . . . (London 1530?) 8vo. Sig. A Kiiii. Unpaged, B.L.—M.

THE BOKE FOR A JUSTYCE OF PEACE never so well and dylygently set forthe. Londini in edibus Wilhelmum Middiltoñ. (1544?) 8vo. ff. 46. B.L. Fol. 24, Shoting in Long bowes.—M. Reprinted, 1559, &c.

TOXOPHILUS, the schole of shootinge conteyned in two bookes. Engraved title, colophon, In ædibus Edouardi VVhytchurch (1545) 4to. ff. viii.-50-38. Numbering incorrect, last folio being 42. B., M. copies imperfect.

TOXOPHILUS, The schole or partitions of shooting contayned in ij bookes written by Roger Ascham 1544. And now newlye perused. Pleausant for all Gentlemen and Yomen of England for theyr pastime to reade . . . 1571 Imprinted at London in Fleet Streate neare to St. Dunstones Church by Thomas Marshe. 4to. ff. iv.-63. B.L.—M.

DO. DO. Printed by Abell Jeffes, dwelling in Phillip Lane, at the signe of the Bell. Anno Domini 1589.—M.

THE ENGLISH WORKS OF ROGER ASCHAM . . . With notes and observations and the Author's life. By James Bennet . . . London, printed for R. & J. Dodsley . . . 1761. 4to. pp. x.-xvi.-396. Pp. 51-186 Toxophilus.—M. Reissued without date.

TOXOPHILUS, the schole or partitions of shooting contayned in ii bookes . . . To which is added a dedication and preface by John Walters . . . Wrexham reprinted by R. Marsh, 1788. 12mo. pp. xxiv.-230.—M. Reissued (1793?) with front. Reissued with fresh title and dedication, but no front. 'Reprinted by J. Painter, 1821.'—M.

THE ENGLISH WORKS OF ROGER ASCHAM . . . London, printed (by S. Hamilton, Weybridge, Surrey) for White Cochrane & Co. . . . 1815. 8vo. pp. ii.-xxviii. 392. Pp. 47-174, Toxophilus. —M. Reissued with extra leaf (half title) and different paging. Reissued without date.

THE WHOLE WORKS OF ROGER ASCHAM. Edited by J. A. Giles. London, J. R. Smith, 1864 5. 4 vols. 8vo. Toxophilus is a part of vol. 2. It is separately paged vi.-168. 'Toxophilus' issued alone pp. 168. 1866.

English reprints. ROGER ASCHAM TOXOPHILUS 1545. Carefully edited by Edward Arber . . . London, Alex. Murray & Son . . . 1 July 1868. 8vo. pp. 168.

LA METHODE DE TRAICTER LES PLAYES faictes par Hacquebutes . . . et de celles qui sont faictes par fleches &. . Compose par Ambroyse Paré . . . A Paris . . . 1545. 12mo. F. 30. La Methode de curer les playes faictes par fleches.—M.

THE SECONDE SERMON of Master Hughe Latemer . . . 1549. See Sixth Sermon.

SEVEN SERMONS before Edward VI. . . . Edited by E. Arber . . . London, 1869. 8vo. pp. 208. Sixth Sermon p. 158.—M.

THE INSTITUCION OF A GENTLEMAN, Anno Domini, 1555. Imprinted at London in Fleetstreete at the signe of the Princes Armes by Thomas Marshe, 16mo. unpaged, ff. 66 ; f. vii.-viiiii. Shooting in the long Bowe, B.L.—M.

DO. DO. . . . 1568, Imprinted at London in Fleetstreete nere unto Saint Dunstones Church by Thomas Marsh. 16mo. unpaged, B.L. (Sir J. Banks' copy, paged in MS.) ff. 66.—M. Reprinted in facsimile (for presentation only) by Charles Whittingham, London, 1839, with introduction signed G(eorge) S(oaper).—M.

23rd August 1577. Richard Jones. Receaued of him for his license to imprinte A Merye reioysinge historie of the notable feastes of Archerye of the highe and mightie prince William Duke of Shordiche . . . iiij[d] and a copie (T.S.R. ii. 318).

19 August 1579. Edward White. Receyued of him for printinge ij ballates . . . . Ye other Ye Renovacon of Archery, by Prince Arthure and his companions, viij[d] (T.S.R. ii. 358).

POSITIONS wherein those primitive circumstances be examined, which are necessarie for the training up of children either for skill in their booke or health in their bodie. Written by Richard Mulcaster . . Imprinted at London by Thomas Vautrollier, 1581. 4to. pp. xiv.-304. Pp. 100-102, Of Shooting.—M. Reprinted 1888.

25 September 1581 Richard Jones. Lycenced unto him under th. h. of the Wardens. A Joyfull songe of the worthie Shootinge in London the 19th September, 1581 . . . iiij[d] (T.S.R. ii. 401).

THE PATHWAIE TO MARTIALL DISCIPLINE . . . set forth by Thomas Styward Gentleman . . . The second Booke entreateth of sundrie proportions and training of Calivers and how to bring bowes to a great perfection of service . . . Imprinted at London . . . . 1581. 4to. pp. x.-167, plates.—M. Pp. 94, &c. Reprinted 1582.

THE AUNCIENT ORDER SOCIETIE and unitie laudable of Prince Arthure and his knightly armory of the round table. With a threefold assertion frendly in favour and furtherance of English archery at this day. Translated and collected by R(ichard) R(obinson) London imprinted by (R.I. for) John Wolfe dwelling in Distaffe Lane neere the signe of the Castle 1583 4to. 53 leaves. B.L.—M.

A REMEMBRANCE OF the worthy show and shooting by the Duke of Shoreditch and his associates the worshipful citizens of London upon Tuesday the 17 of September 1583. Set forth according to the truth thereof to the everlasting honour of the game of shooting in the long bow. By W. M. (not seen). Reprinted in Wood's Bowman's Glory 1682, & in Roberts' English Bowman 1801.

THE DISCOVERIE OF WITCHCRAFT . . by Reginald Scot 1584, Imprinted at London by William Brome, 4to. Book 3, Chap. xv. p. 65. 'A skilful archer punished by an unskilful justice.'—M. Reprinted 1886.

A new Yorkshyre song intituled 'YORKE, YORKE, FOR MY MONIE' (22 eight-line stanzas, with a four line chorus). From Yorke by W. E(lderton). Imprinted at London by Richard Jones: dwelling neere Holburne Bridge 1584. Broadside fol. Reprinted in Thomas Evan's Old Ballads and Joseph Ritson's Yorkshire Garland.—M.

INSTRUCTIONS FOR THE WARRES . . . Translated by Paul Ive Gent. London 1589. 8vo. pp. 312. B.L. Pp. 25 &c. Archers.—M.

14th August 1589. William Jones. Entred for his copie, a ballad intytuled, Discrybinge the vallure of our Englishe Archers and and shott that accompanied the Blacke Prince of Portugall their governor into the feildes on Twesdaie the 12 of August with the welcome into Lyme Streete by Master Hugh Offley under th(e) (h)aindes of Master R. Judson and bothe the wardens iiij[d] (T.S.R. ii. 528).

A BRIEFE DISCOURSE OF WARRE. Written by Sir Roger Williams Knight . . . Imprinted at London by Thomas Orwin, 1590. 4to. pp. iv.–62, and errata leaf. Pp. 46–48 To proove bowmen the worst shot used in these daies.—M.

CERTAIN DISCOURSES written by Sir John Smythe Knight: concerning the formes and effects of divers sorts of weapons: and chiefly of the Mosquet, the Caliver and the Long Bow as also of the great sufficiencie, excellencie and wonderful effects of Archers . . . At London printed by Richard Johnes at the signe of the Rose and Crowne, neere Holburne Bridge 1 Maij 1590. 4to. ff. xviii.–50.—M.

THE ARTE OF WARRE . . . by William Garrard . . . finished by Captaine Hitchcock . . . London 1591. B.L. 4to. pp. 388. Archers, pp. 2, 82, 94 &c.—M.

DISCIPLINE MILITAIRE de Messire Guillaume de Bellay . . . a Lyon 1592. 8vo. pp. 255. Pp. 21 &c. Archers.—M.

THE PRACTICE PROCEEDINGS and lawes of armes described . . By Matthew Sutcliffe . . . Imprinted at London by the deputies of Christopher Barker . . . 1593. 4to. pp. xxiv. 342. Pp. 181, 189–190. Wherein the use of Archers is declared.—M.

A BREEFE DISCOURSE, concerning the force and effect of all manuall weapons of fire and the disability of the long bowe or archery, in respect of others of greater force now in use . . .

Written by Humfrey Barwick . . . At London printed for Richard Oliffe . . 1594? 4to. ff. vii.-35, folding plate. B.L.M.

CERTEN INSTRUCTIONS, Observations and Orders Militarie, composed by Sir John Smythe Knight. 1591. Imprinted at London by Richard Johnes. 1594. 4to. pp. viii.-220. Pp. 150-154, The advantages that Archers have over Mosquetiers. Reprinted with fresh title (by Sir John Smithe) and introduction pp. xxxii., 1595.—M.

A BRIEFE TREATISE to proove the necessitie and excellence of the use of archerie. Abstracted out of ancient and moderne writers. By R.S. . . . At London printed by Richard Johnes. 1596. 4to. 12 leaves. B.L. (By R. Sharpe.)—M.

THE SURVEY OF CORNWALL. Written by Richard Carew, of Antonie, Esqr., London. Printed by S. S. for John Jaggard, 1602. 8vo. Ff. 72-73, Archery.—M.

THE LIVES OF THE III. NORMANS, KINGS OF ENGLAND.—Written by (Sir) J(ohn) H(ayward). Imprinted at London by R.B. Anno 1613. 4to. pp. viii.-316. Pp. 77-79, Reasons for preferring the English bow to fire-arms.—M.

COUNTRY CONTENTMENTS in two books. . . . the lawes of the leash, shooting in the Long bowe . . . &c., by G. M(arkham). . . . Printed at London by J. B. for R. Jackson, are to be sold at his shop neere Fleet Street conduit 1615. 4to. pp. 109. Pp. 107-9, Of shooting in the long bowe. Reprinted 1637-49-57, &c. (Usually bound up with 'A way to get wealth,' of which it is the 2nd part.)

THE TACTIKS OF AELIAN. . . . Englished. With notes by (Captain) J(ohn) B(ingham). . . At London, for Lawrence Lisle . . . 1616. Fol. pp. vi.–166, plates. Pp. 24-27 Note on Archery.—M.

THE COMPLEAT GENTLEMAN: Fashioning him absolute in the most necessary and commendable qualities concerning minde or bodie that may be required in a most noble gentleman. By Henry Peacham, Mr. of Art . . . Anno 1622. Imprinted at London for Francis Constable, 8vo. pp. vi.–211. Chap. 14, pp. 181-182, Of Shooting.—M.

THE DOUBLE-ARMED MAN, by the new invention, briefly showing some famous exploits atchieved by our British Bowmen, with severall portraitures proper for the pike and bow. By W(illiam) N(eade) Archer. Printed for J(ohn) Grismand, at the signe of the Gun in Pauls Alley, 1625. 4to. pp. 40. Seven full page wood cuts.—M.

A NEW INVENTION OF SHOOTING FIRE-SHAFTS IN LONG BOWES: Wherein besides the manner of making them, there is contained a briefe discourse of the usefulness of them in our modern warres, by sea and land. Pub[d]. by a true patriot for the common good of his native countrey of England (Device) London, printed by H. L. for John Bartlett at the Gilt Cup in Cheapside, Anno Dom. 1628. 4to. pp. 11-12.—M.

THE ART OF ARCHERIE. Shewing how it is most necessary in

these times for this Kingdome, both in peace and war, and how it may be done without charge to the country, trouble to the people, or any hindrance to necessary occasions. Also of the discipline, the postures, and whatsoever else is necessarie for the attayning to the art. London, printed by B. A. and T. F. for Ben Fisher . . . 1634. 8vo. pp. xxii.–172, 1 plate. Dedication signed Gervase Markham.—M.

PLEASANT DIALOGUES AND DRAMMAS . . . By Tho(mas) Heywood . . . London, printed by R. O. for R. H., 1637. pp. vii.–284 and pp. 20, Annotations. Pp. 280-281. In Praise of Archery.—M. (This poem is reprinted in Wood's Bowmans Glory 1682 & 1691.)

F. MARINI MERSENNI MINIMI COGITATA PHYSICO MATHEMATICA. In quibus tam naturae quam artis effectus admirandi certissimis demonstrationibus explicantur. Parisiis sumptibus Antonii Bertier via Jacobæa 1644. 4to. Minimi Ballistica et acontismologia. In qua sagittarum jaculorum et aliorum missilium jactus & robur arcuum explicantur, pp. 12–140.

HORAE VACIVAE, OR ESSAYS: by John Hall . . . London, printed by E. G. for J. J. Rothram, 1646. 12mo. pp. 201. Shooting with the Arrow, p. 146.—M.

THE LIFE AND RAIGNE OF KING HENRY THE 8TH. Written by the Rt. Honble. Edward Lord Herbert of Cherbury. London. . . . 1649. Fol. pp. 575. Pp. 15, 19, &c.—M.

AIME FOR THE ARCHERS OF ST. GEORGES FIELDS. Containing the names of all the marks in the same fields, with their true distances according to the dimensuration of the line. Formerly gathered by Richard Hannis. And now corrected by Thomas Bick and others. London . . . 1664. 16mo. pp. vi.–110.—M.

ARCHERIE REVIV'D; or, the bow-man's excellence. An heroick poem: being a description of the use and noble virtues of the long-bow in our last age, so famous for the many great and admired victories won by the English. . . Exhorting all brave spirits to the banishment of vice by the use of so noble and healthful an exercise. Written by Robert Shotterell and Thomas Durfey, Gent. London, printed by Thomas Roycroft, Ann. Dom. 1676. 8vo. pp. xxii-80.—M.

PALLAS ARMATA. Military Essayes of the Ancient . . . and Modern Art of War. Written in the years 1670 and 1671 by Sir James Turner, Knight, London . . . 1683. Fol. pp. 372, p. 74. Reasons for bringing back the use of the Bow.—M.

THE SCHOOL OF RECREATION; or, the Gentleman's Tutor to the Most Ingenious Exercises. . . . By R. H. London. Printed for H. Rodes. . . 1684. 12mo. Front. pp. 202. Of Shooting pp. 121-128.—M. Reprinted 1710.

THE FOUR EPISTLES of A. G. Busbequius concerning his Embassy into Turkey (1560). London . . . 1694. 8vo. Turkish Archery, pp. 206-211, 239.—M.

TRAVELS INTO TURKEY, translated from the original of . . . A. G. Busbequius. London 1744. 8vo. pp. 166 &c.—M.

THE LIFE AND LETTERS of O. G. de Busbecq . . . by C. Thornton West and F. H. Daniel . . . 8vo. 2 vols. London . . . 1881. Vol. i. p. 253 &c.

THE COMPLEAT GAMESTER; or, Full and Easy Instructions for Playing at all manner of usual and most Genteel Games after the best Method. . . To which is added, The Gentleman's Diversion in Riding, Racing, Archery, Cockfighting, and Bowling. London. Printed for J. Wilford 1721. 16mo. Front. pp. 104-44. Archery, pp. 21-22.

HISTOIRE DE LA MILICE FRANÇOISE. . . Par le R. P. G. Daniel, de la Compagnie de Jesus. . . A Amsterdam. . . 1724. 4to., 2 vols. Vol. 1. pp. 139-145; 171-186; 301-310.—M.

SELECTA POEMATA Archibaldi Pitcarnii Med. Doctoris, Gulielmi Scot a Thirlestane equitis, Thomæ Kincadii, civis Edinburgensis, et aliorum. . . . Edinburgi excussa anno 1727. 12mo. pp. xii.-156. Issued with a new title page. Editio secunda. Londini apud A. Millar. . . . 1729.—M.

THE COMPLEAT GAMESTER in Three Parts, containing 1. The Court Gamester; 2. The City Gamester; 3. The Gentleman's Diversion. . . . Written for the use of the Young Princesses by Richard Seymour, Esquire. Sixth Edition . . . London, 1739. 16mo., pp. xii.-324. Archery, pp. 299-300.

THE HISTORY AND SURVEY of the Cities of London and Westminster . . . The whole being an improvement of Mr. Stowes. . . . (By Strype). London, 1753. Fol. 2 vols. Vol. 1, pp. 231 &c. Vol. 2, pp. 257.—M.

THE COUNTRY GENTLEMAN'S COMPANION . . . By a Country Gentleman . . . London. Printed for the Author . . . 1753. 8vo. 2 vols. Shooting, Vol. 2, pp. 61-62.—M.

ANGLO-NORMAN ANTIQUITIES. . . By Doctor Ducarel. . . London, 1768. Fol. Plate xi. basso relievos of Archers on horseback.—M.

THE HISTORY AND ANTIQUITIES of Great Yarmouth . . . by H. Swinden. Norwich, 1772. 4to. p. 83, Order to Fletchers of Norwich, 42 Ed. III.—M.

ORDONANCES POUR LE TREZ ANCIEN ET NOBLE EXERCICE DE L'ARC. Approuvées par le Magnifique Conseil le 14 May 1773. Paris 1773. 8vo., pp. 67.—B.

MEMOIRES CRITIQUES ET HISTORIQUES sur plusiers points d'antiquités par Charles Guischard nommé Quintus Icilius. A Berlin 1773. 4 vols. 4to. Vol. 3, Chap. 29, pp. 420-1. De l'art de tirer de l'arc.—M. 2nd Edition. Paris, 1774. 4 vols. 8vo. Vol. 3, p. 333.—M.

MUSES THRENODIE. Perth, 1774. 8vo. Note on p. 21. (Not seen.)

A NEW AND UNIVERSAL DESCRIPTION . . . of the Cities of London and Westminster, by Walter Harrison, Esq. London., 1775. Fol. Archery with plate, pp. 217-218.—M.

HONDA-ANGEL-CYNNAN ; or, a Compleat View of the Manners, Customs, Arms, Habits, &c., of the Inhabitants of England. . . . By Joseph Strutt. . . In two volumes. . . London. Sold by B. White at Horace's Head in Fleet-street. 1774-5. (Vol. iii. pub. 1776.) 3 Vols., 4to. Vol. 1, pp. 96, &c. Plates xvii., xxii., xxxi., xxxii. Vol. 2, pp, 23, 40. Plates iii., xiii., xlii., xlvi. Vol. 3, pp. 9, &c. Plate xiv.—M.

ARCHÆOLOGIA ; or, miscellaneous tracts relating to antiquity. Published by the Society of Antiquaries of London, 4to. Vol. vii., pp. 46-68. Observations on the practice of Archery in England, by the Hon. Daines Barrington. (Republished in the 'Annual Register' for 1784-5 (London, Vol. xxvii., pp. 64-75), and in the 'European Magazine' (London) Vol. viii., pp. 177-181, 257-261 (September, October, 1785). Vol. xxii., pp. 59-105, Observations upon the History of Hand Firearms and their Appurtenances, by Samuel Rush Meyrick (pp. 72-74, English bows *v.* musquets.) Vol. xxx., pp. 543-544 and plate, Roman bronze figure of an archer, 11 inches high. See Index Vols.—M.

ENCYCLOPEDIE METHODIQUE . . . A Paris, chez Panckoucke, Libraire. . . . A Liege, chez Plonteux. 1784. 4to. Art Militaire, Vol. 1, pp. 97-100.—M.

NEW, COMPLETE, AND UNIVERSAL HISTORY of the Cities of London and Westminster. . . By William Thornton, Esquire. . . London. . . 1784. F. Archery, with plate, pp. 97, 166.—M.

THE EUROPEAN MAGAZINE. London, 8vo. Vol. 6, 1784 (August) pp. 86-88. An account of Sir Ashton Lever Kt., with a portrait. Vol. 46, 1804 (Dec.) pp. 403-408. Some account of Mrs. Crespigny, with a portrait.—M.

MILITARY ANTIQUITIES respecting a History of the British Army from the Conquest to the present time . . . By Francis Grose, Esq., F.A.S. London. Printed for S. Hooper, 212 High Holborn. 1786. 4to. 2 vols. Vol. i. pp. 140-155, 1 plate. Vol. ii., p. 272, 2 plates.—M. Reprinted by T. Egerton (with additional prints of arms, &c.), 1801. Vol. i., pp. 134-151. Vol. ii., pp. 265-273. Reprinted by J. Stockdale, 1812. Vol. i., pp. 128-144. Vol. ii., pp. 267-275.

AN HISTORICAL ESSAY on the dress of the Irish. A Memoir on the Armour and Weapons of the Irish. . . By Joseph C(ooper) Walker. . . Dublin . . . 1788. 4to. pp. xii.-182. Pp. 128-132, 165-166, Archery.—M.

COLLECTIONS AND OBSERVATIONS relative to Archery thrown together in the years 1790 and 1791. 4to. MS. ff. 79-37 (Coll. C. J. Longman).

ANECDOTES OF ARCHERY ANCIENT AND MODERN. By H(enry) G(eorge) Oldfield. London, printed for the author, and sold by T. and J. Egerton . . . 1791. 12mo. pp. xii.-78, errata leaf, 3 plates.—M.

ILLUSTRATIONS OF BRITISH HISTORY, BIOGRAPHY AND MANNERS

. . . by Edmund Lodge. London . . . . 1791. 3 Vols. 4to. Vol. iii., p. 296, Letter from Sir F. Leake.—M.

AN ESSAY ON ARCHERY: describing the practice of that art in all ages and nations. By Walter Michael Moseley, Esq. Worcester, printed by J. and J. Holl, and sold by J. Robson, London, 1792. 8vo. pp. ii.-x.-384, errata leaf, 5 plates, and engraved title.—M.

MEMOIRES OF THE LIFE OF THE LATE CHARLES LEE, ESQ. . . . Dublin. . . 1792. 8vo. Pp. 239-242, letter from B. Franklin to C. Lee. Feb. 11th, 1776.—M.

THE UNIVERSAL MAGAZINE. London, 1792. 8vo. Vol. 90, pp. 242–247, History of the English Long Bow.

ANECDOTES OF ARCHERY from the earliest ages to the year 1791. Including an account of the most famous archers of ancient and modern times, with some curious particulars in the life of Robin Fitzooth, Earl of Huntingdon, vulgarly called Robin Hood. The present state of Archery, with the different societies in Great Britain, particularly those of Yorkshire, Lancashire, and Durham. By E(ly) Hargrove. York. Printed for E. Hargrove, Bookseller, Knaresboro'. 1792. 12mo. pp. 104, 3 plates. —M.

THE SPORTING MAGAZINE. London. 1792, &c. 8vo. Contains articles, songs, &c., on Archery. The most important are: Nov., 1792, Archery at Hatfield, with plate; Jan., 1794, Fairlop Oak, and Meeting of Hainault Foresters, plate; Sep., 1794, Meeting of Royal Surrey Bowmen, plate; Dec., 1830, Origin, Progress, and Present State of Archery; Dec., 1832, Flemish Archery; July, 1836, View of the Toxophilite Ground.—M.

ARCHERY, A POEM. Printed for the Author, 1793, 8vo., pp. 79-45-64 (by — Ogden).

ANTHOLOGIA HIBERNICA. Dublin, 1793-94. 4 Vols., 8vo., Vol. ii., pp. 275-7, Review of J. C. Walker's Essay. Vol. iii., pp. 6-9, Theory of Archery, by an old Finsbury Archer.—M.

ANTIENT TENURES OF LAND, by Thomas Blount . . . . York, 1794. 8vo. Reprinted 1874. Archery Tenures.—M.

THE BIOGRAPHICAL MIRROR. London. S. and E. Harding. 1795-98-1803. 3 Vols., 4to. Vol. i., pp. 66-69, portrait of Sir William Wood.—M.

THE NEW LADY'S MAGAZINE . . . 1795 . . . London. 8vo. P. 120 (August) Review of the Archers on Blackheath, plate.—M.

THE BRITTANIC MAGAZINE. London, 1797. 8vo. Vol. v., pp. 1-37, 72-106, 150, 231 History of Archery.

'PRO ARIS ET FOCIS.' Considerations of the reasons that exist for reviving the use of the long bow with the pike in aid of the measures brought forward by His Majesty's Ministers for the defence of the country. By Richd. Oswald Mason, Esq. London, printed for T. Egerton, Military Library, White hall, 1798. 8vo., pp. 60. Front. Engraved title, 2 folding plates.

THE HISTORY AND ANTIQUITIES of the parish of Saint-Leonard, Shoreditch. . . . By (Sir) Henry Ellis . . . London . . . 1798. 4to. Pp. 168-173, 226, 351, 352, Archery.—M.

THE ENGLISH BOWMAN ; or, tracts on Archery ; to which is added the second part of the Bowman's Glory. By T(homas) Roberts, a member of the Toxophilite Society . . . London. Printed for the author by C. Roworth, Hudson's Court, Strand. 1801. 8vo., pp. xliv.-300, 1 plate.—M. (Pp. 253-284, reprint of 2nd part of 'Bowman's Glory.' See p. 474).

GLIG-GAMENA ANGEL-DEOD ; OR THE SPORTS AND PASTIMES OF THE PEOPLE OF ENGLAND . . . By Joseph Strutt, London, printed by T. Bensley . . . for J. White at Horace's Head, Fleet Street, 1801. 4to. pp. ii.-lvi.-300, 40 coloured plates. Pp. 10, 38-55, plates, 2, 4, & 5. Archery.—M. Reprinted 1812, 1830, 1845, &c., &c.

ENCYCLOPEDIA LONDINENSIS . . . by John Wilkes . . . London, 1810. 23 Vols. 4to. Archery, Vol. 2, pp. 48-59, and 2 plates of Bows and Arrows.—M.

HISTORY, TOPOGRAPHY, AND ANTIQUITIES of the Parish of St. Mary's Islington . . . By John Nelson, London . . . 1811. 4to. Archery, pp. 26-33.—M.

A TREATISE ON ARCHERY, or the art of shooting with the long bow. Containing every requisite to obtain a complete knowledge of that noble weapon considered as an instrument of amusement ; likewise a dissertation on the steel crossbow, with directions for using it. . . . By Thomas Waring, sold only by him, at his Archery, Caroline St., Bedford Square, 1814. 8vo. pp. 68, 2 plates.—M. 2nd Ed., 1820, different front. 3rd. Ed., 1821. 4th Ed., 1822. 5th Ed., 1824. 6th Ed., 1827. 7th Ed., 1828, part as to crossbow omitted, both plates different, 'sold only by him at his Archery Warehouse,' pp. 62.—M. 8th Ed., 1830. 9th Ed., 1832, both plates different.

ENCYCLOPEDIA PERTHENSIS. . . 2nd edition, in 22 vols. Edinburgh. Printed by John Brown, 1816. 4to. Vol. 2, pp. 397-402, Archery.—M.

BALLADS OF ARCHERY, sonnets, &c., by the Rev. James William Dodd, second usher in Westminster School. . . . London. Printed (by G. Woodfall) for R. H. Evans. . . . 1818. 8vo., pp. xxxii.-176 and Music, 34. (Woodcuts in the style of Bewick by Sir E. Lechmere.)

THE ANNALS OF SPORTING AND FANCY GAZETTE. London. . . . Sherwood, . . . 1822, &c. 8vo. Vol. 1, pp. 165-168, 237-238, Archery. Woodcut by G. Cruickshank, sen., on page 165. See index.—M.

MEMOIRS. . . OF CHARLES ALFRED STOTHARD, and some account of a journey to the Netherlands, by Mrs. Charles Stothard. London, Longman. . . 1823. 8vo., pp. 497. Pp. 374-375, Flemish Archery.—M.

A CRITICAL INQUIRY INTO ANTIENT ARMS AND ARMOUR. . .

In 3 volumes, by Samuel Rush Meyrick. London . . . 1824. Plates i. to viii., Bows, &c.—M.

MONUMENS FRANÇAIS INEDITS . . . par N. X. Willemin. A Paris 1825. 2 Vols. fol. Plates of Archers from Gaston Phœbus, &c.—M.

THE MIRROR OF LITERATURE, &c. London. 8vo. Vol. viii. p. 324 (Nov. 22, 1826) Archery.

PIERCE EGAN'S BOOK OF SPORTS. . . London (1827) (?) William Tegg and Co. 8vo., pp. 146. Pp. 41-43, Archery.

THE PRIVY PURSE EXPENSES of King Henry the VIII. . . By Sir Nicholas Harris Nicolas. . . London. W. Pickering, 1827. 8vo.—M. PRIVY PURSE EXPENSES of Elizabeth of York. . . Wardrobe accounts Edward the IV. . . By Sir N. H. Nicolas. London. W. Pickering, 1830. 8vo.—M. PRIVY PURSE EXPENSES of the Princess Mary. . . By Frederick Madden. . . London. W. Pickering, 1831, 8vo.—M. The above three books contain entries of payments for Bows, Arrows, &c.

THE YOUNG ARCHER'S GUIDE; or, instructions in the use of the long bow, with observations on the various apparatus used in the practice of Archery. . . By William Sparkes, Derby, printed for the author by Wilkins and Son. Sold at Hughes' Archery, King-street, Derby. 1828. 12mo., pp. vii.-36, front.—M.

THE YOUNG LADY'S BOOK. A Manual of Elegant Recreations, Exercises, and Pursuits. London, 1829. 8vo., pp. 505. Archery, pp. 419-426. Woodcut by G. Cruickshank the Elder.

THE YOUNG LADY'S BOOK . . . London, H. G. Bohn, 1859. 8vo. Archery, pp. 405-414.—M.

THE YOUNG LADY'S BOOK . . . Edited by Mrs. Henry Mackarness. London, 1876. 8vo. Archery, pp. 454-5. Col. Plate.

THE EDINBURGH ENCYCLOPEDIA . . . Conducted by David Brewster . . . Edinburgh. Printed for William Blackwood, 1830. 4to., 18 vols. Vol. 2, pp. 327-332, Archery.—M.

ENGRAVED ILLUSTRATIONS of Antient Arms and Armour from the collection of L. Meyrick, Esq. . . . By S. R. Meyrick and Joseph Skelton. London . . . 1830. Fol. 2 Vols. Vol. 1, plates, xvi. and xxiv. Vol. 2, plates, cxxxv., cxli., cxlix., Bows, Arrows, &c.—M.

THE ARCHER BOY. Pitts, Printer. (London, 1830?) 8vo. Single sheet; a song of 12 lines.—M.

DIXON'S ARCHERS' GUIDE, with full instructions for the use of the Long Bow. London. Published and sold at Dixon's Archery Warehouse, 29 Gracechurch Street (1830?) 12mo. pp. 41., Folding plate.

THE ARCHERS' MANUAL; or, the art of shooting with the Long Bow as practised by the United Bowmen of Philadelphia. Philadelphia, E. H. Hobson, 147 Chestnut-street. 1830. 8vo., pp. xii.-66 and 2 plates.

ARCHÆOLOGIA SCOTICA; or, Transactions of the Society of Antiquaries of Scotland. Edinburgh. Printed for the Society

. . . 1831. 4to. Vol. iii., pp. 248-259. Notices regarding Scottish Archery, communicated by Donald Gregory.

THE BRITISH ARCHER; or, TRACTS ON ARCHERY. By Thomas Hastings, Esq., Collector of His Majesty's Customs . . . Published by R. Ackerman, Strand, London, 1831. Yelf typ. Newport, Isle of Wight. 4to., pp. iv.-130. 6 plates.—M. (The original MS. is in the Collection of C. J. Longman.)

FESTIVALS, GAMES, AND AMUSEMENTS, ancient and modern. By Horatio Smith, Esq. London. Henry Colburn and Richard Bentley, 1831. 8vo., pp. vi.-382. Archery, pp. 181-192.

THE GENTLEMAN'S MAGAZINE. London. 8vo. Contains many articles, &c., on Archery. The most interesting are: Vol. 102, part i. (1832, Feb. to May and supplement), pp. 113-116, 209-213, 299-302, 421-424, 594-602. Archery in England by Alfred J. Kemp. Map of Finsbury Fields. Woodcut of Archer's ticket, and frontispiece to Markham's Art of Archerie. Vol. 102, part 2 (1832, Oct.), pp. 302-4, Proclamation of King Charles. Vol. 1, New Series (1834, Jan., Feb., June), pp. 56, 176, 594-596, Weight of Bows when drawn. Vol. 4, New Series (1835, Oct.), pp. 379-381, Archery Tenures. New Series, Grant and Co., Vol. 13 (1874, Aug., Sept.), pp. 160-177, 348-355, Our Modern Archers, by An Edinburgh Salisbury (James Sharpe).—M.

NIPPON. Archief voor de berschrijving van Japan . . . Ph. F. von Siebold. Leyden, 1832, &c. 10 Vols., folio. Plates of Bows, Arrows, &c.—M.

THE PINDAR OF WAKEFIELD'S LEGEND, with two engravings. London. Printed by J. Moyes, Castle-street, Leicester-square. 1832. 8vo. 250 copies privately printed.

A SHORT TREATISE ON ARCHERY . . . Sold at Bragg's Archery Warehouse, 36 High Holborn. 1832. Printed by Charles Darby, 103 High Holborn. 16mo., pp. 42.

THE ARCHER'S GUIDE containing full instructions for the use of . . . the Bow . . . accompanied by a sketch of the History of the Long Bow . . . By an old Toxophilite. London. T. Hurst, St. Paul's Churchyard. 1833. 8vo. pp. xii.-178. Folding coloured plate by R. Cruickshank.

THE FIELD BOOK, or Sports and Pastimes of the United Kingdom . . . by the author of 'Wild Sports of the West' (W. H. Maxwell). London, published by Effingham Wilson . . . 1833. 8vo. pp. viii.-616. Pp. 16-20 Archery with woodcuts.

THE PENNY CYCLOPEDIA of the Society for the Diffusion of Useful Knowledge . . . London, 1833. Fol. Vol. 1, pp. 272-274 Archery.—M.

MISCELLANY OF THE MAITLAND CLUB. Vol. I. . . . Printed at Edinburgh, 1834. 4to. Pp. 25-36, the archearis of our soverane ladyis gaird, 1562-1567 (Roll of the Body-Guard of Archers of Mary, Queen of Scots).—M.

THE SCIENCE OF ARCHERY: showing its affinity to heraldry and

capability of attainment. By A. P. Harrison. Hatchard and Son, 187 Piccadilly, 1834. 8vo. pp. viii.-68.

WALKS THROUGH ISLINGTON . . . By Thomas Cromwell. London. 1835. 8vo. pp. viii.-411. See index.—M.

A DICTIONARY OF SPORTS or companion to the Field, the Forest, or the Riverside. By Henry Harewood. London, 1835. 8vo. pp. 365. Archery, pp. 18-23.

HELPS AND HINTS how to protect life and property, by Lt.-Col. Baron de Berenger . . . London . . . 1835. 8vo. Stadium Archery Club, pp. 252, 261, 262. 3 illustrations by R. & G. Cruickshank.—M.

THE HAWKSTONE BOW MEETING, by the author of the 'Woore Country' (R. E. E. Warburton) . . . Chester, J. Seacombe, and Baldwin & Craddock, London, 1835. 8vo. pp. 8.—M.

RHYMES ON THE RULES OF THE CHESHIRE BOWMEN, by R. E. Egerton Warburton. Northwich, F. Carnes, High Street. 8vo. pp. 12.—M.

HUNTING SONGS AND BALLADS, by R. E. E. Warburton. London, W. Pickering, 1846. 4to., pp. 152. Hawkstone Bow Meeting, p. 35.—M.

HUNTING SONGS AND MISCELLANEOUS VERSES, by R. E. Egerton Warburton. London, Longmans . . . 1859. 8vo. pp. ix.-204. Hawkstone Bow Meeting p. 23. Hawarden ditto p. 124. Song p. 126.—M. (Neither of these editions gives the Hawkstone Meeting in full.)

THE CABINET OF MODERN ART & Litterary Souvenir, edited by A. A. Watts. London, 1837. 8vo. A chapter on Archery by G. A. Hansard, pp. 5-28.

PHILOSOPHY IN SPORT made Science in Earnest . . . 4th Edition. . . . London . . . 1839. 8vo. pp. xvii.-485. P. 247 Archery.

GAMES AND SPORTS . . . by Donald Walker. London . . . 1837. 8vo. pp. xviii-368, 33 plates. Archery, pp. 185-209, 1 plate. Reprinted 1840.

THE BOOK OF ARCHERY, being the complete History and practice of the Art, ancient and modern . . . by George Agar Hansard, Gwent Bowman. London, Longmans . . . 1840. 8vo. pp. xxiv.-456. 39 plates. Re-issued by H. G. Bohn 1841.

AN ENCYCLOPEDIA OF RURAL SPORTS . . . By Delabere Blaine, Esq. . . . Illustrated with 600 Engravings. London, Longman . . . 1840. 8vo. pp. xv.-1240. See index.

ENCYCLOPEDIA OF ANTIQUITIES . . . by the Rev. Thomas Dudley Fosbroke . . . London, J. B. Nicholls & Co. 1840. 8vo. Archery pp. 686-690, &c.—M.

LETTERS AND NOTES on the Manners, Customs, and Condition of the North American Indians, by Geo. Catlin. London, published for the Author, 1841. 2 vols. 8vo. Contains numerous references to, and plates of Indian Archery.—M.

THE SPORTING ALMANAC 1841. London, E. Churton, 26 Holles St. 1841. 8vo. pp. 85. P. 17, Archery, with engraving.

THE HISTORY AND TOPOGRAPHY of the Parish of St. Mary Islington . . . by S. Lewis, Junr. Islington, published by J. H. Jackson, Upper St. . . . 1843. 4to. pp. viii.-486. Archery, pp. 18-25, 2 woodcuts.—M.

THE ILLUSTRATED LONDON NEWS. London, folio. Aug. 10, 1844; May 18, 1850; Oct. 2, 1852; July 22, 1854; Aug. 7, 1858; Sept. 4, 1858; July 16, 1864; Aug. 4, 1866; Aug. 24, 1872; Nov. 15, 1879; Oct. 3, 1885; July 14, 1894. Archery Illustrations.—M.

JOURNAL OF THE BRITISH ARCHÆOLOGICAL SOCIETY . . . London, 1845, &c. 8vo. Contains articles on ancient archery, &c. See Index Vol.—M.

ANECDOTES OF ARCHERY from the earliest ages to the year 1791, by the late E(ly) Hargrove. The whole carefully revised, brought down to the present time, and interspersed with much new and valuable matter . . By Alfred E. Hargrove . . . York, . . . 1845. 8vo. pp. x.-316. 6 plates.—M.

THE LADY'S COUNTRY COMPANION . . . by Mrs. Loudon . . . London, Longmans . . . 1845. 8vo. pp. xii.-396. Archery, pp. 365-370.

THE SCOTTISH JOURNAL OF TOPOGRAPHY, antiquities, traditions, &c. Edinburgh. Vol. I. p. 96 (No. 6, Oct. 9th, 1847). Duel with bows and arrows 10th Feb. 1791.—M.

RECHERCHES HISTORIQUES sur les costumes civils et militaires de Gildes et de Corporations de Métiers . . . par Félix de Vigne. Gand 1847. 8vo. pp. 82, 35 plates. P. 28, Gildes de St. Sebastien.—M.

JAARBOCKIJ voor de boog shutterijes en het Koningrijk der Nederlanden 1848-9, on der hoof dedactrie van A. Van der Hast. Gorincheen. 8vo.

OBSERVATIONS ON THE POPULAR ANTIQUITIES of Great Britain . . . By John Brand . . . Enlarged by Sir Henry Ellis . . . London, H. G. Bohn, 1849. 3 vols. 8vo.—M. Vol. II. pp. 391-393, Archery.

NOTES AND QUERIES. London, 1849, &c. 4to. Series 4, Vols. IV. V. VII. XI. Series 6, Vols. IX. X. XI. Bibliographies and Notes on Archery.—M.

THE MONUMENTS OF NINEVEH . . . by Austen Henry Layard . . . London, John Murray, 1849. 2 vols. fol. Numerous plates of Archers.—M.

THE ARCHER'S PRIZE. London, Grant & Co. 1850. 18mo. (Not seen.)

THE HANDBOOK OF ARCHERY, wherein are described the various implements used in the art . . . London, Robert Tyas, 50, Cheapside; J. Menzies, Edinburgh. 24mo. pp. 61 front. (1850?)

THE HAND-BOOK OF ARCHERY . . . by George Jacobs . . . London, sold by G. Jacobs . . . 1850. 24mo. pp. 63. Reprint of above.

LONDON. Edited by Charles Knight. London, H. G. Bohn, York St., Covent Garden, 1851. 4to. 6 vols. See Index.—M.

HISTOIRE DES COMPAGNIES Militaire De Namur. Bruxelles, 1851. 4to. pp. 89.

HISTORICAL AND STATISTICAL INFORMATION respecting . . . the Indian Tribes of the U.S. . . . by H. S. Schoolcraft . . . Philadelphia, 1851-61. 6 vols. 4to. Indian Archery.—M.

GODEY'S LADY'S BOOK. Philadelphia, 1852. 8vo. Vol. 45, Archery pp. 253-258.—M.

THE HARROW CALENDAR . . . with a History of Harrow School . . . Harrow-on-the-Hill . . . 1853. Archery at Harrow, pp. xix.-xxvi.—M.

THE YOUNG ARCHER'S ASSISTANT: being an introduction to the art of shooting with the bow. By a practical and ardent admirer of that noble pastyme. Printed by W. H. Cox for . . . Thomas Aldred . . . 126 Oxford St., London, 1854, &c. 12mo. pp. 34. 1 plate. Preface signed F. M.—M.

THE ARCHERS' GUIDE or Instruction for the use of the Long Bow (by H.D.) London, A. & S. Joseph Myers & Co., 144 Leadenhall St. (1855). 12mo. pp. 55.—B. Second Ed. 1860, pp. 46. Folding plate.

THE CALENDAR OF STATE PAPERS. Domestic, 1856 &c. Foreign, 1861 &c. Venetian, 1864 &c., and the REPORTS OF THE HIST. MSS. COM., 1870 &c., contain numerous entries as to Archers.

ANCIENT ARMOUR AND WEAPONS in Europe. By John Hewitt. Oxford, Parker, 1855-1860. 3 vols. 8vo. See Index.—M.

THE FIELD, London. Folio. Vol. VI. No. 145, Oct. 6, 1855, to No. 169, March 22, 1856. Eighteen papers on Archery, its theory and practice. By Horace A. Ford, Esq.—M.

ARCHERY: ITS THEORY AND PRACTICE. By Horace A(lfred) Ford, Holder of the Champions Medal for 1849-50-1-2-3-4 & 5. London, 1856. 8vo. pp. iv.-128, 6 plates. Second Ed. 1859. 8vo. pp. xii.-142, 6 plates.

DO. DO. Edited by Dean V. Manley, Toledo (U.S.A.) Frank S. Rolph, publisher, 1880, pp. xii.-160.

THE THEORY AND PRACTICE OF ARCHERY, by the late Horace Ford. New Edition thoroughly revised and rewritten, by W(illiam) Butt, M.A., for many years Hon. Sec. of the Royal Toxophilite Society. London, Longmans, 1887. 8vo. pp. x.-296. 2 plates, and woodcuts.

A MANUAL OF BRITISH RURAL SPORTS . . . By 'Stonehenge' (J. H. Walsh) . . . London, G. Routledge & Co. . . . 1856. 8vo. pp. xii.-717. Archery, pp. 504-510.—M.

BESLEY'S HANDBOOK for the Archery Meeting and Guide to Exeter. 1858. 8vo. pp. xxxiv.-80. Pp. i.-xxxiv., The G.N.A.M.

A PERAMBULATION OF ISLINGTON, by Thomas Edlyne Tomlins, Esq. . . . London, 1858. 8vo. pp. viii.-204. Pp. 44, 149-151 Archery, and Woodcuts of Archers' marks.—M.

PUNCH. London, 4to. 17 July, 1858: 4 June, 1859: 2 Nov., 1861: 19 July, 1862: 29 Oct., 1864: 20 July, 1867. Archery Caricatures by J. Leech, &c.

THE CAMBRIDGE CHRONICLE. Cambridge, C. W. Naylor, No. 9 Market Hill. Folio. No. 5050 Sept. 3rd, No 5052 Sept. 17th,

No. 5055 Oct. 8, 1859. The long bow of the past; the rifle for the future.—M. Reprinted as a pamphlet, Cambridge, 1859.

JAARBOCK der Koninklijgilde van St. Sebastian te Brugge. 1859, 4to.

SPORTS & PASTIMES of Merry England, by Thomas Miller. London . . . (1859). 8vo. pp. 184. Archery pp. 55–68, with woodcut.—M.

FELTHAM'S GUIDE TO ARCHERY . . . London (1863). 12mo. pp. 71.—B

ILLUSTRATED TIMES. London, fol. June 20, 1863. Crystal Palace Meeting.

ARCHERY, FENCING, & BROADSWORD. By 'Stonehenge' (J. H. Walsh) and the Rev. J. G. Wood . . . London, Routledge . . . (1863). 12mo. pp. 92; Pp. 15–35 Archery.—M. Re-issued 1865.

FAMILY HERALD HANDY BOOKS. Croquet and Archery; London, . . . 421, Strand (1863?), 24mo. pp. 56. Pp. 27–56 Archery.

THE ARCHER'S REGISTER; a year book of facts for 1864. Edited by J(ames) Sharpe, Archery correspondent of the 'Field' . . . London, 1864, 8vo. pp. 142; 1865, pp. 176; 1866–7, pp. 130; 1876–77, pp. 152; 1877–78, pp. 162; 1878–79, pp. 180; 1879–80, pp. 194; 1880–81, pp. 190; 1881–82, pp. 164; 1882–83, pp. 158; 1883–84, pp. 166; 1884–85, pp. 184; 1885–86, pp. 208; 1886–87, pp. 188; 1887–88, pp. 188, port. 1888–89. Edited by Fred. T. Follett, Archery Correspondent of the 'Field,' pp. 160, port. 1889–90, pp. 204, port.; 1890–91, pp. 202; 1891–92, pp. 232; 1892–93, pp. 238, port; 1893–4, pp. 246, port.—M. [Interesting articles appear in the various volumes by H. A. Ford, J. Spedding, F. Townsend, W. Butt, &c., &c., for which see list at end of the last volume. No 'Archer's Registers' were published between 1866 and 1877. H.W.]

THE QUEEN. London, Folio. No. 888, Jany. 2, to No. 900, 26 March, 1864. Archery for Ladies, by Honora Spencer (eleven articles by Mrs. Sharpe) Aug. 7th, 1886, and July 19th, 1890, Archery Illustrations.

THE PRACTICAL GUIDE TO ARCHERY. By John A(rthur) Keatinge, Hon. Secretary, Grand Leinster Archery Society, Dublin . . . 1864; 12mo. pp. viii.–52, plate.—M.

ONCE A WEEK. London, 8vo. vol. xi. (1864) Archery, pp. 64–69: Shooting for the Silver Arrow at Harrow, by E. W., pp. 107–110.—M.

LONDON SOCIETY, London, 8vo. vol. vi. (1864) Archery pp. 208–218 and 3 woodcuts.—M.

THE HISTORY OF CLERKENWELL, by the late William J. Pinks . . . London . . . J. T. Pickburn . . . Clerkenwell, 1865. 4to. pp. xx.–800. See Index.—M. Republished . . . London, Charles Herbert, Goswell Road. 1881. 4to.—M.

WARNE'S BIJOU BOOKS. ARCHERY. By H. J. B. Hancock . . . With illustrations. London, F. Warne & Co. . . . 1866. 32mo. pp. 90, coloured plate.—M.

FAMILIAR LECTURES on scientific subjects. By Sir John F(rederick) Herschell, Bart. . . . A. Strahan, London and New York, 1866. 8vo. pp. xii.-507. Pp. 495-507. On the estimation of skill in target shooting.—M.

THE NATURAL HISTORY OF MAN . . . by the Rev. J. G. Wood . . . London, G. Routledge and Co. 1868, 2 vols. 8vo. Accounts with woodcuts of the Archery of uncivilised races.—M.

CASSELL'S HOUSEHOLD GUIDE. London (1869-71), 4 vols. 8vo. vol. 3, p. 296, Archery, and woodcut.—M.

APHORISMS FOR ARCHERS, by Spitzbergen, dedicated to Mrs. Grundy, of the Hyde, Bridport. Bridport, 1870. 24mo. pp. 10.

THE GRAPHIC. London. Folio. July 9th, 1870, August 16th, 1873, July 23rd, 1892. Archery Illustrations.

APPLETON'S JOURNAL. . . New York, 4to. vol. ix. pp. 525-526. The Long Bow, by Maurice Thompson.—M.

ANNALES de la Société d'Emulation. Troisième Série. Bruges 1873. Vol. 8, pp. 376, 385, 386. Gilde de St. Sebastien.—M.

MANNERS, CUSTOMS AND DRESS during the Middle Ages, by Paul Lacroix . . . London, Chapman and Hall . . . 1874. 8vo. Pp. 180-183. Archery and 3 woodcuts from Gaston Phœbus.—M.

ARMS AND ARMOUR in Antiquity and the Middle Ages, by Charles Boutell, M.A. London . . . 1874. 8vo. pp. xvi.-296. See Index.

THE ENCYCLOPEDIA BRITANNICA . . . Ninth Edition. Vol. II. Edinburgh. A. & C. Black, 1875. 4to. pp. 371-378. Archery, signed J.SH. (James Sharpe).—M.

DE ONDE SCHUTTERIJ in Nederland. Hoffdijck. Utrecht, 1875. 4to. (Not seen.)

THE SATURDAY REVIEW. London, 4to. May 19, 1877; Sept 13, 1879; June 2 and Oct. 22, 1881; Nov. 8, 1884; July 30, 1892; Articles by F. T. Follett.

ACROSS AFRICA. By Verney Lovett Cameron. London, Daldy, 1877. 2 vols. 8vo. Vol. I. pp. 239, 314, 357, vol. 2, p. 163, Drawings of arrow heads and ways of stringing bows.—M.

THE ILLUSTRATED SPORTING AND DRAMATIC NEWS. London, Folio. 26 May and 21 July, 1877; 23 Feb., 1878; 15 March, 1879; 28 Aug., 1880; 8 July, 1882; 16 Aug., 1884; 15 Aug., 1885; 3 Sept., 1887; 15 Sept., 1888; 6 June, 1891; 15 July, 1893; 6 Jan., 1894. Archery Illustrations.

SCRIBNER'S MONTHLY . . . New York. London, F. Warne & Co. 8vo. Vol. XIV. pp. 273-287 (July, 1877) Bow Shooting by Maurice Thompson. Vol. XVI. pp. 1-16 (May, 1878), Merry Days with Bow and Quiver, by M. Thompson.—M.

HARPER'S NEW MONTHLY Magazine, New York. 8vo. No. 326 (July, 1877) pp. 238-255, Hunting with the long bow. By Maurice Thompson.—M.

A CATALOGUE OF THE ANTHROPOLOGICAL Collection lent by Col. Lane Fox for exhibition in the Bethnal Green Branch of the Kensington Museum, June, 1874. By Col. Lane Fox.

Parts 1 and 2. London, Printed by George E. Eyre & W. Spottiswoode, 1877. 8vo. pp 184, plates.

AN ILLUSTRATED HISTORY of Arms and Armour . . . by Auguste Demmin, with nearly 2,000 illustrations. Translated by C. C. Black, M.A. London. 1877. 8vo. pp. viii.–595. See Index.

THE WORLD, London. 4to. June 6th, 1877.

OLD AND NEW LONDON . . . by Edward Walford . . . 6 vols. 4to. See Index.

THE ARCHER'S COMPLETE GUIDE, or Instructions for the Use of the Long Bow. By an Expert. New York : Peck & Snyder, 24 Nassau Street, 1878. 8vo. pp. 26, woodcuts.

THE WITCHERY OF ARCHERY, a complete manual of Archery, with many chapters of Adventures by Field and Flood and an appendix containing practical directions for the manufacture and use of Archery implements, by Maurice Thompson . . . New York, Charles Scribner's Sons (1878), pp. xii.–259, woodcuts. 2nd Edition, 1879 (ten additional pages on English Archery).

ETUDE SUR LES ANCIENNES COMPAGNIES D'Archers, D'Arbalétriers et D'Arquebusiers, par L. A. Delaunay. Paris, Champin Editeur, 15 Quais Melaquais, 1879. 4to. pp. x.–412, 34 plates.

HOW TO TRAIN IN ARCHERY . . . for the use of those Archers who wish to become contestants at the Grand National Association Meeting, by Maurice and Will H. Thompson. Published by E. J. Horsman, Manufacturer of Fine Archery, New York, 1879. 12mo. pp. 54, front.—M.

FRANK LESLIE'S ILLUSTRATED NEWSPAPER. New York. Folio. Aug. 30, 1879, Account of American N.A.M., with illustration.

THE RELIQUARY . . . London, Bemrose & Sons, 10 Paternoster Buildings. 8vo. Vol. XIX. 1878-9, pp. 156-160 (Jan., 1879), Anecdotes of Archery by the late J. N. Gutch.—M.

ANNUAL REPORT OF THE BOARD of Regents of the Smithsonian Institution . . . for the year 1879. Washington, Government Printing Office, 1880. 8vo. Pp. 213-297, A Study of the Savage Weapons at the Centennial Exhibition, Philadelphia, 1876, by Edward H. Knight : 147 woodcuts. Pp. 376-382, Primitive Manufacture of Spear and Arrow Points, by Charles C. Jones, P. 394, Ancient Arrow-head Factory, by S. T. Walker. FOR THE YEAR 1884. Part 2. Washington, 1885. 8vo. Pp. 307-318, A Study of the Eskimo Bows in the U.S. National Museum, by John Murdock : 12 plates. FOR THE YEAR 1885. Part 1. Washington, 1886. P. 871, Observations on Stone Chipping, by George Elliot Seller. FOR THE YEAR 1886. Part 1. Washington, 1887. Pp. 206-239, The Ray Collection from Hufa Reservation, by Otis T. Mason. Californian Bows, pp. 225-230, and plates 22, 23. FOR THE YEAR 1888. Washington, 1890. Pp. 286, plate 26, Tlingit Indian bows, &c.

FRANK LESLIE'S POPULAR MONTHLY, New York. 8vo. Vol.

VIII. (Oct., 1879), pp. 406-418, Archery Past and Present, by W. Holberton; Vol. XXIV. (Sept., 1887), pp. 311-318, The Ancient Rulers of Japan, by Henry Whiting.

THE ARCHERY FIELD. Boston, Mass. 1879-80-81. (Published fortnightly.) (Not seen.)

ARCHERY, Orange Judd Co., New York. 1879. Pp. 30. (Not seen.)

AN ILLUSTRATED HANDBOOK OF INDIAN ARMS . . . by The Hon. W. Egerton . . . London . . . 1880, 8vo. Description of Indian bows and arrows.

OUR TIMES. London. 8vo. Aug., 1881. Archery, by F. T. Follett.

BELGRAVIA. London. 8vo. Vol. XLIII. (Jan., 1881), pp. 338-345, Archery in Scotland, by Robert Macgregor.—M.

SONGS OF FAIR WEATHER. By Maurice Thompson. Boston (U.S.A.), James R. Osgood & Co. 1883. 8vo. pp. iv.-100. P. 5, The Archer; p. 7, The Death of the White Heron; p. 14, A Flight Shot.

DRAWINGS BY ALBRECHT DÜRER . . . by Dr. F. Lippmann. Berlin. 1883. Fol. Irish Archer, ff. 62 & 62a.—M.

LONGMAN'S MAGAZINE. London. 8vo. August, 1884, pp. 373-381, The Witchery of Archery, by Charles James Longman.

THE PICTORIAL WORLD. London. Folio. 16 Oct., 1884.

THE JOURNAL OF KING EDWARD'S REIGN, written in his own hand; from the original Cot. Lib., Nero C. 10. Privately printed for the Clarendon Hist. Soc. 1884. 8vo. pp. 86.

CATALOGUE OF THE MEDALS OF SCOTLAND . . . by R. W. Cochrane Patrick. Edinburgh, 1884. 4to. P. 191, Scottish Archery Prizes.

CASSELL'S COMPLETE BOOK OF SPORTS AND PASTIMES. London. 8vo. (1884?) Pp. 287-295, Archery.—M.

BLACKWOOD'S EDINBURGH MAGAZINE. Edinburgh. 8vo. Vol. 138 (Dec., 1885), The Scots and English Bowmen, pp. 775-783.

TRANSACTIONS OF THE DEVONSHIRE ASSOCIATION. Vol. 17. Plymouth, 1885. Pp. 337-344, On the Substitution of Firearms for the Long Bow . . . by G. Wareing Ormerod.

ANCIENT AND MODERN METHODS of Arrow Release, by Edward S. Morse. 'Essex Institute Bulletin,' Oct. and Dec. 1885. 8vo. pp. 56, woodcuts.

THE YEAR'S SPORT, a Review of British Sports and Pastimes for the year 1885. London, Longmans, 1886. 8vo. pp. vii.-549. Pp. 1-8, Archery, by C. J. Longman.

CASSELL'S FAMILY MAGAZINE. London. 4to. May, 1886, The Pastime of Archery.

ARBRE DE CHANDELIER, Traits D'Archers et D'Arbalétriers . . . XIVe Siècle. Par M. E. Delfortrie. (1886?) 8vo. pp. 5 and folding plate of arrow-heads. Published in Mémoires de la Société Archéologique de Bordeaux, Tome VIII. Bordeaux, Veuve Gadocet impr., Rue du Temple 12.—M

OUTING, an Illustrated Magazine. New York. 8vo. Vol. VII. (Jan., 1886), pp. 371–378, Thoughts on Archery, by Agnes Frazer Sandham. Vol. VIII. (May, 1886), pp. 205–210, Three Weeks of Savage Life, by M. Thompson. Vol. XXI. (Nov., 1892), pp. 83–91, Yumi, the Japanese Long Bow, by Robert Denig.

THE CRITERION. Cincinnati, Ohio. Vol. I. (Sept., 1887), pp. 78–82, The Growth of Archery, by W. A. Clark.

PERSONAL REMEMBRANCES OF SIR F. W. POLLOCK, BART. London, 1887. 8vo. 2 vols. Vol. 2, pp. 72–76. The R.T.S.

WILDWOODS MAGAZINE. Chicago, Ill. Vol. I. (Aug., 1888), pp. 175–178, Ancient and Modern Archery, by A. Bowman.

BOWS AND ARROWS. An Archæological-ethnological Sketch, by D. N. Anuchin. Reprinted from the Transactions of the Tiflis Archæological Congress. Moscow, Mamontof & Co., 1887. 4to. pp. 75. (In Russian.) A summary of the above appears (in English) in Internationales Archiv für Ethnographie, ed. by J. D. E. Smeltz. Leiden, 1888.

THE JOURNAL OF THE ANTHROPOLOGICAL INSTITUTE . . . London, 8vo. Vol. XIX. (Nov., 1889), pp. 220–254, On the Structure and Affinities of the Composite Bow, by Henry Balfour.—M.

PICTURES OF ANCIENT JAPANESE HISTORY . . . by T. H. Asso. Revised by Sir E. Arnold . . . Tokyo. 1890. 2 vols. 4to. Plates and Accounts of Japanese Archery.—M.

THE KING'S BOOK OF SPORTS . . . By L. A. Govett, M.A. London, Elliot Stock, 1890. 8vo. pp. 140. Pp. 46–52, Archery.

DIE AFRICANISCHEN BÖGEN, ihre Verbreitung und Verwandtschaften, eine anthropogeographische Studie von Friedrich Ratzel. Leipzig, bei S. Hirzel, 1891. 8vo. pp. 50, 5 plates.

THE DAILY GRAPHIC. London. Fol. July 21st, 1891; July 14th, 1892; July 12th, 1893. Ladies' Day, R.T.S.

OLD ENGLISH SPORTS, PASTIMES, AND CUSTOMS, by P. H. Ditchfield. Methuen & Co., 1891. 8vo. pp. xii.–132. Archery, pp. 25–30.—M.

THE YORKSHIRE COAST and the Cleveland Hills, by John Leyland . . . London, Seeley & Co., 1892. 8vo. Fresco of Martyrdom of St. Edmund in Pickering Church, with plate.—M.

THE GENTLEWOMAN'S BOOK OF SPORTS. Edited by Lady Greville. London, Henry & Co., Bouverie St., E.C. (1892). 8vo. pp. 227. Pp. 177–195, Archery, by Mrs. C. Bowly.

OUTING WEEKLY RECORD. New York. 8vo. Vol. III. (Aug., 1892), Outdoor Pastimes for Women, by E. Pauline Johnson.

THE MEMORIES OF DEAN HOLE . . . London . . . 1892. 8vo. Archers, pp. 1–13.

STATUTES, PROCLAMATIONS, &C. RELATING TO ARCHERY

EDWARD I. 13th, Statute of Winton, c. 6.

EDWARD III. 18th April and 23rd July, 1341, Orders to provide bows and arrows. 1st August, 1346, Order that Archery should be practised. 1st June, 1363, and 12th June, 1365, Proclamations against unlawful games, Archery to be practised.

RICHARD II. 14th Dec., 1382, Order to Sheriffs to provide bows and arrows. 12th, c. 6, Servants to use bows and arrows. 20th June, 1392, Order to King's servants to practise Archery.

HENRY IV. 7th, c. 7, Arrow-heads to be better made.

HENRY V. 10th Feb., 1416, Writ to Sheriffs of Kent and 10 other counties to provide feathers. 1st Dec., 1418, Writ to Sheriffs of Southampton and 13 other counties to provide 40,000 feathers.

EDWARD IV. 4th, c. 9, Pattens not to be made of aspe, unless the wood is unfit for arrows. 12th, c. 2, Bow-staves to be imported with merchandise and marked. 17th, c. 3, Against unlawful games, bows to be used. 3rd Dec., 1474, Proclamation that bows and arrows shall be made. 22nd, c. 4, Regulating the price of bows.

RICHARD III. 1st, c. 11, Bow-staves to be imported with every butt of wine.

HENRY VII. 3rd, c. 13, Regulating the price of long bows. 19th, c. 2, Good bow-staves to be free of duty ; c. 4, Against the use of crossbows.

HENRY VIII. 3rd, c. 3, Every one under 60 to shoot with the long bow. 3rd, c. 13 ; 6th, c. 13 ; 14th & 15th, c. 7 ; 25th, c. 17 ; and 33rd, c. 6 ; Against shooting with a crossbow. 33rd, c. 9, Act for the encouragement of Archery.

PHILIP AND MARY. 4th & 5th, c. 2, Repeals Statute of Winton, and re-enacts.

ELIZABETH. 8th, c. 10, Relating to bowyers, and regulating the price of bows. This Statute was continued by numerous Acts during the reign. 13th, c. 25, As to the importation of bow-staves.

JAMES I. 1st, c. 25, and 21st, c. 28, Continue 8th Eliz. c. 10, as to bowyers and the price of bows.

CHARLES I. 3rd, c. 4, Continues 8th Eliz. c. 10. 4th April, 1629, Commission to T. Taylor and others to enforce Archery. 28th August, 1631, Proclamation revoking the above, but ordering the practice of Archery. 20th Dec., 1632, Commission to the Lord Mayor and others to replace the Finsbury Fields in order for the practice of Archery. 1633, Proclamation for the use of the pike and bow together. 1634, License to W. Neade to teach the above. 1635, Grant of privilege to Ben. Austin for practising an invention of shooting at butts. 1637, Commis-

sion to Lord Mayor and others to cause 33rd H. VIII. c. 6, for the practice of Archery, and 12th Ed. IV. c. 2, and 13th Eliz. c. 25, as to the importation of bow-staves, to be enforced.

CHARLES II. 12th, c. 4, Bow-staves to pay duty of 4*l.* on every bundle of 120.

PICTURES AND PRINTS [1]

There are not many pictures relating to Archery. Of course there are a great number in which bows and arrows have been introduced, but pictures of Archery alone are few, and it may be interesting to mention, as far as possible, where these at present are.

At the Archers' Hall, Edinburgh, there are portraits of Dr. Spens, by H. Raeburn *; the Earl of Hopetoun, George Earl of Dalhousie,* and James Earl of Dalhousie,* by Sir J. Watson Gordon ; Viscount Melville ; Sir John Hope, of Pinkie ; Sir James Pringle, of Stitchell ; William St. Clair, of Rosslyn ; the Duke of Buccleuch, by Sir F. Grant, P.R.A. ; and the picture by Mr. W. Skeoch Cumming of the Royal Company of Archers leaving Holyrood Palace after having presented the 'Reddendo' on the 18th August, 1886, which contains nearly 80 portraits.*

The Royal Toxophilite Society have two portraits of Sir W. Wood,* and one of Mr. James Rawson, a well-known archer in his day.

The original water-colour drawing of the Meeting of the Royal British Bowmen at Gwyrsylt,* by J. Eames and R. Smirke, R.A., is in the British Museum.

The portrait of the Earl of Wemyss in the uniform of the R.C. of A. belongs to H. G. Watson, Esq. ; that of George, Prince of Wales, in the uniform of the Royal Kentish Bowmen,* by J. Russell, R.A., to H. Madocks, Esq. ; and Sir Robert Cunliffe, Bart., has a fine portrait of Sir Foster Cunliffe, Bart., in the uniform of the Royal British Bowmen, by J. Hoppner, R.A. A reduced replica by Raeburn of the portrait of Dr. Spens, and a view of the Toxophilite Society's ground at Bayswater, by R. Cruikshank, are in the collection of C. J. Longman, Esq. Of three pictures painted by G. E. Hicks, 'Stringing,' * 'Nocking,' * 'Drawing,' * the latter belongs to Colonel Walrond ; and a picture by W. P. Frith, R.A., of his three daughters shooting, is in the possession of Mrs. Lees.

A list of the principal prints relating to Archery is given as far as possible in the order of their publication, but only those which were published separately are mentioned, book and magazine illustrations being omitted, as they are nearly all to be found in the Bibliography. The sizes are those of the 'plate,' unless there is a note to the contrary.

A COMPOSITION of eight figures, one in the act of shooting (left-handed) on the right (etching about 1650) ; $10 \times 5\frac{3}{4}$, inscribed

[1] Pictures marked * are engraved.

'D. Teniers in. et excud. privilegio,' on the right; rare. 2nd issue as above, and 'von F. v. de Wyngaerde.' Copy of the above reversed, 'D. Teniers in. cum privilegio A.F. (?) excudit.' Do., 'D. Teniers in. et excud. privilegio,' on the left.

A VIEW OF THE SHOOTING FOR THE SILVER ARROW AT HARROW-ON-THE-HILL. 'Cs. Knight del. et sculp.,' 10¼ × 9½. 'Printed for W. Todd, &c.' Names of the shooters for 1769 below the print. Coloured and plain, rare. In the Library at Harrow there is a similar print, 5¼ × 3¾.

ARCHERY. Designed by Joseph Sclater, engraved by J. Heath, 25 × 19. Gentlemen shooting on the left, on the right shooter sitting on the trunk of a tree. The figure shooting is a likeness of T. Waring. Published March 23, 1789.

THE TOXOPHILITES, a pair; ladies shooting on the right in one, and gentlemen on the left in the other. 'Published Feb. 20, 1790, by E. Harding, 182 Fleet St. Drawn and Etched by Rowlandson.' Each 20½ × 15. Coloured and plain, rare.

SIR WILLIAM WOOD. S. Harding del., J. Cramp sculp., oval. Published by E. & S. Harding, Pall Mall, 8 × 7. (This plate was subsequently used for the 'Biographical Mirror.') Republished by Edw. Evans, 1 Great Queen Street, Lincoln's Inn Fields.

ARCHERY, a pair; ladies shooting on the left in one, and gentlemen on the right in the other. Mezzotints, each 14 × 10. 'Published May, 1792, by Robert Sayers.'

THE SOCIETY OF ROYAL BRITISH ARCHERS IN GWYRSYLT PARK. 'The figures drawn by R. Smirke, R.A., the landscape by J. Eames, the Aqua Tint by C. Apostool.' 24 × 19. Published April 1, 1794. Coloured and plain, scarce.

VIEW OF THE RESIDENCE OF THE REV. SAMUEL GLASSE AT GREENFORD. . . Drawn and engraved by Wm. Ellis, 17 × 14.

THE GRACES OF ARCHERY. Caricature, ten separate figures 'C. Ansel del. et inv.' 21 × 15¼. Published Jan. 1, 1794. Coloured and plain, rare.

HIS ROYAL HIGHNESS THE PRINCE OF WALES, in the uniform of the Royal Kentish Bowmen. J. Russell, R.A., pinx. F. Bartolozzi sculp., 23 × 16. Published June 15, 1795.

DR. NATHANIEL SPENS. Painted by H. Raeburn. Engraved by M. Beugo. 26½ × 18. Published Feb. 1796. Old copies are scarce; the plate was retouched and inferior prints produced a few years since.

MEETING OF THE ROYAL BRITISH BOWMEN IN THE GROUNDS OF ERTHIG. J. Townshend del. Engraved by Bennett. 13½ × 10½. Published 1823. Coloured, scarce.

THE MARCH OF ARCHERY. Caricature, Robin Hood fecit. Published Feb. 1829 by G. Humphry, 27 St. James's Street, London. Engraved plate, 16½ × 9½. Coloured, rare.

A REPRESENTATION OF THE ROYAL BRITISH BOWMEN in front of Eaton Hall, the seat of the most noble the Marquess of Westminster, on October 17, 1832, in the presence of their

Royal Highnesses the Duchess of Kent and Princess Victoria. Drawn and engraved by T. & N. Crane. Chester. 20 × 17½.

Society of Royal British Bowmen at Acton Park. Engraved plate, 10 × 6¼. Coloured.

Archery. Ladies and gentlemen shooting on the left. Published June 11, 1832, by Orlando Hodgson. 13 × 7½. Coloured.

George Earl of Dalhousie, Captain General, Royal Company of Archers, as he appeared on July 23, 1832. Painted by John Watson Gordon, S.A. Engraved by T. Lupton. 28 × 18.

The Robin Hood Family, or Archery in 1833. Tregcar inv., C. C. Grant del., Hunt sculp. Engraved plate, 12⅛ × 9¼. Coloured, rare.

James Earl of Dalhousie. Painted by John Watson Gordon. Engraved by — Scott.

The Bow Meeting. From a drawing by P. Browne on stone, by William Galci. Lithograph, coloured and plain, 16½ × 10.

Archery at Hatfield. Drawn by J. D. Harding. Engraved by W. Radclyffe. Hatfield in the distance, target and group of archers on the right. 16 × 12.

View of the Abbey Tavern Promenades and grounds for the excercise of English Sports. Drawn and lithographed by James Burnett. Printed by Hullmandell & Walton. Coloured, 19 × 15.

National Archery Meeting at Leamington, 1851. Drawn and lithographed by H. Sharles. Pub. Sept. 8, 1851. 26 × 18.

Archery of the Mandans. Catlin del., on stone by McGahey. Day & Haghe. Lithograph, 19 × 14.

The Fair Toxophilites. By John Leech. Coloured lithograph. Published by Thomas Agnew & Sons, Jan. 1863. 25 × 17½.

Three prints of ladies shooting: Stringing, Nocking, Drawing, painted by G. E. Hicks. Published Jan. 1867, each 25 × 17.

The Queen's Body Guard leaving Holyrood Palace, after having presented the 'Reddendo' on the 18th Aug., 1886. Painted by W. Skeoch Cumming. Published by Messrs. Aitken, Dott & Sons. Goupil gravure. 33 × 21½.

Roberts in the 'English Bowman' (1801) gives 'Female Archers. Three figures designed by Adam Buck. Engraved by Wright and Ziegler. Published 1799.' I have been unable to find one of these prints or to hear of anybody who had ever seen or heard of one.

(BLANK PAGE-NO CONTENTS)

INDEX

ACTON PARK covered range, 204 ; meeting, 207
Adams, Rev. C. C., 257
Adams, Rev. J. Coker, 244, 248, 255
African ancient stone arrow-heads, 18 ; modern iron chisel-edged arrow-heads, 20 ; modern bows, affinity with Egyptian, 29, 30 ; composite bows, 67 ; bows on Cretan coins, 74 ; drawing rings, 83 ; use of the bow, 99 ; arrow poisons, 100, 101
Agincourt, English archers at, 115 ; their dress, 135
Aiming, 252, 269, 359
Aims, or guides, to the Finsbury Fields, 167
Ainslie, Dr., 413
Ainsworth, Lieut.-Col., 201
Aintree, G.N.A.M. at (1861), 189
Ainus of Sakhalin, as deer-hunters, 7, 95 ; their bows and arrows, 44, 45 ; use of poisoned arrows, 96 ; manufacture of the poison, 96
Akokanthera, arrow poison made from, 101
Aldred, T., 196, 429
Alexandra Park, G.N.A.M. at (1864), 190, 196
Algeria, stone arrow-heads in, 18
Aliens forbidden (1541) to practise archery in England, 144
Allen, John, 229
Alston, J. F., 255
Amaryllis toxicaria, 101
Amentum, the, 10
America, stone arrow-heads in, 18
American archery, 445 ; beginnings of the art, 445 ; initiation and decadence of clubs, 446 ; United Bowmen of Philadelphia, 446 ; championship trophies, 446 ; M. Thompson's 'Witchery of Archery,' 447 ; influence of Ford's 'Archery,' 447 ; first National Archery Meeting (1879), 447 ; institution of the American Round, 448 ; National Round adopted for Ladies' Championship contest, 448 ; Columbia, American, Potomac, and Ohio Rounds, 448 *et seq.* ; membership in National Association, 448 ; money prizes barred, 449 ; shooting at National Meetings from 1880, 449 *et seq.* ; National record at Double York Round, 453 ; National Short Range record, 454 ; championship records, 460 ; flight shots, 461 ; associations, 462 ; conduct of meetings, 462 ; records at public meetings contrasted with practice scores, 463 ; specialities at meetings, 467 ; turtle-back shooting, 467 ;

archery equipments, 467; arrows, 467; bows, 468; woods adapted for bows, 469; hindrances to the growth of archery, 470
American Round, institution of, 448; double, records at, 460 *et seq.*
Ancient archery, on the Mediterranean coast, 58; archers depicted on Egyptian and Assyrian mural sculptures, 58; horse-archers, 59; Assyrian bows, 59; constancy in type of bow on sculptures, 60; angular shape of Assyrian bows, 60, 64; Asshur-nazirpal's bow, 59–61; composite Assyrian bows, 61; Egyptian bows, 59, 61 *et seq.*; Von Luschan's theory of an ancient Egyptian bow, 66; single-stave and composite Egyptian bows, 66; African bows, 67; in Grecian art and literature, 68; Greek composite bows, 69; passages from Homer cited, 70; bows in Xerxes' army, 72, 73; Greek and Asiatic feathered arrows, 73; Cretan archery, 74; Asiatic and African bows on Greek coins, 74, 75
Andaman Islanders, as fish-shooters, 7; as a race, 32; manufacture of the bow, 32; North and South Andaman bows, 32–34, 41; barking the tree, 33, 34; shaping, finishing, and stringing the bow, 35–37; making arrows, 38; their bow reflex when strung, 39; practice of roughening the butt of the arrow, 77; loose practised by them, 83; varying estimates of their skill with the bow, 97; pig-shooting, 98
Anderson, J. W. (U.S.), scores of, 459
Anderson, Mr., 178; scores, 414
Anne, Queen, her charter to the Royal Co. of Archers, 219
Ant poison for arrows, 102
Apollo, 68; his bow on Cretan coins, 74; on Græco-Syrian coins, 75
Arabia, stone arrow-heads in, 18; ancient bows, 73
'Archer's Register,' quoted, on Mr. Ford, 266, 267, 271, 272, 273, 277, 283; on scores made at public meetings, 443
Archers of Great Britain, 177
Archers of the Guard, Richard II.'s, 114
'Archers' Manual' (American revision of Waring), 446
Archers' marks, 166, 167
Archers' stakes, 133
Archery, decadence of, 137; relative efficiency of bow and hand-gun, 138; neglect of the bow at end of 16th cent., 138; hand-guns adopted on the Continent, 138; harquebuziers at battle of Morat, 138; introduction of hand-guns into England, 140; Lord Herbert of Cherbury's misgiving of the bow, 140; hand-gun versus caliver, 141; Act in 1541 providing for practice with the bow, 143; Sir Thomas Elyot's lament on neglect of statutes, 144; Statute of Winchester repealed, 144; long-bow ranked with hacquebut, 145; English archery in 1557, 145; archers and harquebuziers in Elizabeth's reign, 146; Act for promoting archery in 1571, 147; proportion of archers to harquebuziers in muster to repel Armada, 148; controversy on firearms and bow, 148 *et seq.*; trained bands ordered (1595) to be armed with calivers, 152; use of musket arrows (1591), and firework arrows (16c4), 153;

Council in Ireland (1610) decrees offices of fletchers and bowyers obsolete, 153; petition of bowyers (1627), 153; Charles I. orders Highland bowmen to be raised for Rhé expedition, 153; commission in 1628 to enforce 33rd Henry VIII. as to practice of archery, 154; Neade, on use of bow and pike, 154–156; complaints (1638) respecting shooting-fields, 156; the bow used at sieges of Devizes and Lyme, 157; at Tippermuir, 158; suggested revival in 1670, 158; as a pastime, 161; Henry VI.'s skill with the bow, 161; Henry VIII. a patron of archery and a good shot, 162; match between Scotch and English in 1530, 163; ladies' archery in 1605, 163; Edward VI. as a bowman, 164; Queen Elizabeth as an archeress, 164, 165; archery at Harrow School, 165; shooting fields round London, 166; associations formed, 167; Honourable Artillery Company and Finsbury Archers, 167, 168; procedure of the F.A. at the target, 169; the Catherine of Braganza Shield, 170–172; Charles II.'s interest in archery, 174; displays in Hyde Park and at Hampton Court in 1661 and 1681, 174, 175; competitions for the Scorton Arrow, 175; societies at the end of the eighteenth century, 176; conviviality at meetings, 176; annual general meeting of the Archers of Great Britain, at Blackheath, 177; meetings in 1791-92, 178; gun and ball against bow and arrow, 178; meeting at Stowe (1826), 180; the Queen at meetings, 180; the Queen a member of the Guild of St. Sebastian, 180; general meeting of archers in 1821, 180; night shooting, 206. *See also* Ancient archery, Ladies' archery, Military archery, &c.

Arian bows, 73

Armada, muster to repel, 148

Armguard. *See* Bracer

Arrow-box, 329

Arrow-head makers, 130

Arrow-heads, 11–14, 18–22, 129, 130, 133

Arrow-makers in the middle ages, 129, 130

Arrow-pocket, 326

Arrows, Andamanese, 38; Oregon knobbed, 77; Shoshone nockless, 89; North American, 91; with fireworks, 153; 251, 264, 270, 271; self and footed, 304; wood used for footed, 304; manufacture of, 305; feathering, 305, 306; testing, 305; feathers used, 306; shapes of feathers, 306; length of ladies' and gentlemen's, 307; weight, 308; weight-tester, 308; sorting into sets, 308; balancing point, 309; various shapes, 309; parallel recommended by Ford, 309; merits and defects of the barrelled, 310; bobtailed, 310; chested, 310; flight of unfeathered, 310; explanation of line of action of propelling force on flight, 311; on rotary motion imparted in loosing, 314; cleaning before and after use, 315; adhering to one weight, 315; nocking, 343-345; length, 357; ladies' 390; for flight-shooting, 429; shape and make best suited for penetration, 431, 432-435; modern American, 467; drawing and loosing, *see* Drawing, &c.

Arthur, Mrs. J. (U.S.), scores of, 432, 453

Arthur, Prince, son of Henry VII., as an archer, 162
Arundel and Surrey, Lord, advocates (1638) use of the bow, 156
Ascham, Roger, on introduction of archery into England, 105; on peacock feathers for arrows, 128; on the archer wearing his hair short, 130; on the maul, 133; birth and education, 163; his 'Toxophilus,' 4, 164; presents a copy of it to Henry VIII., 164; appointed reader to Princess Elizabeth, 164; on the eccentricities of archers, 334; his five points in archery, 387
Ascham, the, arrangement of arrows in, 327; avoidance of damp, 328
Ashfield, Edmund, 169
Asia, horn bows in, 48
Asia Minor, drawing ring from, 81
Asiatic composite bows, 46–48; bow on Cretan coins, 74
Aspe, for arrows (15th cent.), 127
Assegai, the, 10
Asshur-na-zirpal, King, depicted shooting lions, 59, 61; his bow, 60
Assyrian representations of archers in ancient sculptures, 3; bows and archery depicted on mural sculptures, 58 *et seq.*, 77; methods of loose, 82
Aston Park, Birmingham, G.N.A.M. at, 191
Atkinson, Mrs., Championess, 1861, 424
Atwood, Mr., score, 418
Auray, battle of, archers at, 110, 114
Austen, Ben, his invention for shooting with bows and muskets, 173
Axe, the, in ancient Greek archery feats, 71, 72
Aylesford, Countess of (1788), 246
Aylesford, fourth Earl of, warden of W. of A. (1788), 178, 222, 243, 244; his bow, 224; President of R.T.S. (1788), 230; winner of Bugle, 251
Aylesford, fifth Earl of, 235; captain's medal, 248; purchaser of Sir Eardley Wilmot's bow, 251
Aylesford, sixth Earl of, 246

BACKED bows. *See* Bows
Bacon, Lord, on penetration of arrow, 431
Bactrian bows, 72
Bagot, Rev. Egerton, 246
Bagot, W., 235
Balfour, H., differentiates form of backing in use among the Eskimo from Asiatic, 47; on Javan horn bow, 48; dissection of Persian bow, 54–57; maps of distribution of bows, 27, 57, 85
Bamboo grooved bows, 42, 43
Banks, Miss, on the Silver Arrow at Harrow, 166; on the Royal Foresters, 211
Bannockburn, archery at, 108
Barrelled arrows. *See* Arrows.
Barrington, Right Hon. Daines, 229
Barrow, Miss J., Championess, 1848, 424
Barwick, Humfrey, cited, 4, 148, 150
Batchelor, Rev. J., on the Ainus of Yesso, 96
Bath, G.N.A.M. at, 189, 191, 279
Bayeux tapestry, archers depicted in, 106
Baynes, W. J. W., score of, 420
Bayswater, Mr. Waring's archery ground at, 233
Beach, C. C. (U.S.), scores of, 452, 453, 454, 456
Beard, John, 229
Bearing-arrows, 130
Beck, C. Coker, score of, 248; captain's and warden's medals,

248; on Mr. Ford's shooting in 1851, 250; winner of Bugle, 251; competitions for the Arrow and the Bugle, 254
Beck, R. C. A., 255
Bedford, A. E. R., 254, 255
Bedford, Duke of (1791), 230
Bedford, W. K. R., winner of captain's medal, 248; of the Bugle, 251; of the Bowl, 254; on Mr. G. Edwards, 280
Belcher, Sir E., on Eskimo archery, 95
Belt, the, 326
Benckenstein, J. (U.S.), scores of, 456, 459
Benham Park, scores at, in 1835, 418
Benn, the, 215, 216
Beresford, G., winner of Bugle, 251
Betham, Miss, her scores at Leamington (1864, 1866, 1867), 196; Championess, 1864-66, 1868, 424
Betham, Mr., 284
Bhil grooved bow, 42, 44
Bibliography of archery, 472 *et seq.*
Bird, G., scores of, 240
Bird-shooting with blowpipes, 102
Bisset, Mr., of Lessendrum, his yew bow, 224
Bitton House, Teignmouth, meetings at, 197, 199
Blackheath, meetings at (1789-95), 177, 182, 183
Blanche Tache, the English long-bow at battle of, 109
Blowpipe or sumpitan, the, 10; use of, 102
Blundell, Henry, 229
Blundell, J., 187
Bobtailed arrows. *See* Arrows
Boleyn, Lady Anne, as an archeress, 162
Book of Jasher, the, 351
Boulton, T., scores of, 241; winner of Crunden Bugle (1865), 416
Bourienne, Père, on the Malay spring trap, 11
Bow-box, 328
Bower, Miss, 206
Bowly, Mrs. C., scores at Leamington, 196; at Crystal Palace, 197; high scores, 421, 422; Championess, 1893-94, 424
Bowmen of the Border, Society of, 222
Bown, Mr. (bowmaker), 195
Bows, forms and distribution of, 23; elementary or 'gardener's,' 24, 41; keeping 'strung,' 25, 31; steel, 26; main divisions of types, 27; wooden, 26, 27; wide distribution of single-stave, 28; its value in war, 28; in use among the weaker races, 28; abandonment by some African tribes, 29; Herr Ratzel's classification of African, 29; conservatism of type, 29; wrappings and rings for use and ornament, 31; manufacture by Andaman Islanders, 31 *et seq.*; Oregon Indian, 39, 40; paddle-shape from Shiré river, 40; grooved or furrowed, 41, 42; tribes still using single stave, 44, 46; Japanese, 45; horn and composite, 46; predominance of Asiatic type, 46; Mr. H. Balfour on 'free' backing and 'close,' 47, 48; horn the link between wooden and composite, 48; reflex horn, 48; imaginary evolution of composite, 49, 50; Eskimo varieties, 39, 47, 51, 52; Turkish, 52; dissection of Persian, 54-57; price of, in 1541, 144; with bayonet screwed on, 160; self, 286, 288; stages in manufacture, 287; selection and preparation of wood, 289; manufacture of backed, 290; shape, 291; length, 292; appearance of a self-yew, 293; curls, knots, and pins, 294;

comparative merits of self and backed, 295; crysals, 295; cost, 296; woods used for backed, 296; yew-backed yew, 297; combination of hickory, yew, and fustic, 297; other combinations, 297; weight, 250, 298, 380; self-lancewood, 299; testing, 299; results of overshooting, 300; handles, 300; care in keeping, 301; care in use, 302; stringing and unstringing, 302, 333; fractures, 302; strengthening and weakening, 303; weight and length of ladies' bows, 303; grasping, 340; holding, 341; drawing, 349 *et seq.*; suitable for ladies, 390; American varieties, 468; American woods for, 469. *See* Long-bow

Bowstaves, imported in 1772, 147

Bowstrings, in 1590, 126; construction of, 316; putting on, 317; eye-splices, 317, 318; nocking-point, 319; lapping, 318-321; reserve, 321

Bowyers, Company of, charter (1621), 153

Box, for grease, 326; for bows and arrows, 328, 329

Boycott, Miss Harriet, 205

Bracer, or armguard, of Henry VI., 161; ivory, 202; various patterns, 322; Colonel Lewin's, 322; gauntlet shape, 322; ladies', 322; putting on, 322

Brady, Mr., 178

Bramhall, Rev. J., 264, 266; his personal appearance, 272; style as an archer, 273; want of nerve, 273, 274; best single York Round, 273; averages in York Rounds, 273, 274; best double York Round, 274; bow, 274; contests with Ford and Captain Moore, 274, 275; score in practice, 420

Bridgeman, Mr., 205

Bridges, J. H., winner of Crunden Bugle (1884), 417

Brighton, G.N.A.M. at, 190

Brindley, Miss, Championess 1852, 424

Brooklyn Club, 466

Brooklyn (U.S.) meeting (1881), 449

Broughton Archers in 1791, 178; visit to the W. of A., 247

Brown, Mrs. S., Championess (U.S.), 448, 461

Brownell, Mr. (U.S.), 466

Bruce, at Bannockburn, 108; his laws regarding archery, 213

Buchanan (bowmaker), 260, 262, 263, 267, 274, 281, 428, 429

Buckingham, Duchess of (1826), 180

Buffalo-shooting with the bow, 89-92

Buffalo (U.S.) meeting (1880), 449

Bullock, Mr., 412

Burchell, Mr., his test of Bushman archery, 101

Burgundy, Duke of (1426), 132

Burnham, Walter (U.S.), 449

Burroughs, W. H., wins captain's medal, 248

Burton, Col., scores of, 189, 194

Bushmen, as bowmen, 29, 101; their poisoned arrows, 99, 101

Butt, Mrs. W., 196, 197, 199, 422; Championess, 1876-77, 424

Butt, Mr., on causes governing the flight of an arrow, 313, 314; on lapping bowstrings, 321 *n.*; on aiming, 359

Butt, R., 196

Butt, W., 197; his edition of 'Ford on Archery,' 331; wins Crunden Bugle (1865), 416; (1867, 1869, 1870, 1876, 1879), 417

Butts, statutes for keeping in repair, 147

Byng, Miss (Mrs. Bridgeman), terms of introduction to R.B.B., 205

Caldecott, Charles Marriott, presentation to, 191; President G.N.A.S., 258; character, 258; archery judge, 259; personality, 259
Californian Indians, their stone arrow-heads, 18; barbed arrow-heads, 20
Calivers, introduction of, 140
Calvert, Mrs., Championess, 1850, 424
Cambrensis, Giraldus, on Welsh archers, 107; on the penetration of arrows, 430
Cambridge, ancient bow found in peat at, 16
Cambridge, Duke of, 221
Canonbury House, targets of R.T.S. at, 228
Captains of targets, duties of, 393, 402
Carisbrooke Archery Society, 418
Carter, Miss I., 197
Carver, Mrs. H. C. (U.S.), 451
Cases, arrow, 119
Catherine of Braganza Shield, first bearer of, 170; in possession of R.T.S., 170, 172, 237
Catlin, G., on the North American Indians, 86 *et seq.*
Catterick Bridge, Yorkshire, meeting at, in 1821, 181
Cazalet, Mr., 178, 413
Chalk Farm, meeting at (1792), 178
Championship records (U.S.), 448 *et seq.*
Charles I., gives patent to Hon. Artillery Company, 142; raises Highland bowmen, 153; attempts to enforce Acts for practice of the bow, 160; as an archer, 173
Charles II., his interest in archery, 174, 175
Chautauqua, New York (U.S.), meeting (1886), 454
Chelsea Manor Grounds, meetings at (1833), 181
Cheltenham, G.N.A.M. at, 189, 191-194, 261-263, 279
Chenery, Mr., 196, 197
Chert arrow-heads, 18
Cheshire archers (14th century), 114
Chested arrows. *See* Arrows
Chetwynd, J., 196
Chetwynd, Miss H., 196; Championess, 1857, 424
Cheyenne feat with the bow, 90
Chicago, Archery Association of, 447; meeting (1882), 450
Chinese composite bow, 54; drawing ring, 81
Chizé, archery at battle of, 114
Cholmondeley, C. F., 240, 241
Church, Mrs. E. T. (U.S.), 449
Cincinnati Meeting (1883), 451
Clapton Archery Society, 418
Clark, Miss Georgie (U.S.), scores of, 460
Clarke, Mr., score of, 418
Clarke, W. A. (U.S.), Champion, 451, 453-455, 460, 461, 463, 464, 467
Clifton, G.N.A.S. at, 190, 198
Clout, the, 220, 249, 426
Cobham, Lord, his complaint to Protector Somerset on archers' pay, 118
Cock, Sir H., on the bow in 1595, 152
Coins, bows on, 74, 75, 286
Colquhoun, Mr., of Luss, 220
Columbia Round (U.S.), 449 *et seq.*
Commodus, Emperor, as an archer, 75
Composite bows, 46 *et seq.*; ancient Assyrian, 61. *See* Bows
Constable, Philip, 172, 175
Constable, Philip, jun., 229, 237
Cornish archers in 14th century, 114; in 1446, 126
Cortes, his losses from Mexican arrows on the Triste Noche, 93
Costume of lady archers, 389

Cotehele, Cornwall, old English arrows at, 126
Coulson, Thomas Lane, 281; singular style, 282; at targets, 282; best scores, 283
Cowper, Mr., 413
Crane feathers for arrows, 129
Cranequins or crossbow winders, 115
Crécy, English archery at battle of, 109, 113
Cremorne House, meetings at (1838), 181
Crespigny, Claude Champion, 231
Crespigny, Mrs., lady patroness of R.T.S. (1801), 231; her archery fêtes at Champion Lodge, 232
Crete, ancient archery in, 74, 75
Crossbows, 26, 27, 85, 115, 116
Crunden Cup and Bugle, list of winners of (1836-94), 416, 417
Crunden, John, 232, 235, 413
Crysals, 295
Crystal Palace, meetings at, 182 *n.*, 196, 197, 278, 421, 422
Culm Vale Archery Society, 197
Cumberland Gulf, Eskimo bows from, 51
Cunliffe, Lady, 206
Cunliffe, Sir Foster, President of R.B.B., 202 *n.*, 203; portrait, 204; invested with badge of R.B.B., 205; on night shooting, 207; his list of members of R.B.B. defending their country, 207
Cunliffe, Sir R. A., Bart., 202 *n.*
Cydonian bow, the, 10

DALE, Rev. Mr., on Zanzibarese archery, 100
Dalkeith, matches at (1887), 255, 256
Dalry Archers, Scotland, 217
Daniel, Le Père, 130; on the maul, 133
Darlington, G. C. (U.S.), Champion, scores of, 461
Dartford Heath, meetings of R.K.B. at, 208
Dartmouth, Earl of (1851), sec. of W. of A., 244
Dasent, Dr., quoted, 243
Davis, Mrs. T. (U.S.), Championess, scores of, 449, 461
Davison, Mrs., Championess, 1854, 1855, 424
Dawes, Mr., 264
Dawson, Miss S. (Mrs. Butt), score in 1867, 422
Dawson, T., hon. secretary G.W.A.M., 198, 199
Dayton, Ohio (U.S.), meetings at, 455, 456, 459
D'Elbœulf, Marquis of, his archery feat, 146
De la Marche, Ollivier, quoted, 1
De Soto, his expedition, 94
Derby, Earl of (1533), directions for dress of his archers, 134
Derby, G.N.A.M. at, 188; G.Nor.A.M. at, 201
Devizes, the bow used at siege of, 157
Devon and Cornwall Archery Society, 212
Digby, Wriothesly, 243, 244, 246
Dodd, Mr., Bard of the R. Kent. B., 208
Doncaster, G.N.A.M. at, 191
Double Columbia Round, records at, 449 *et seq.*, 461
Douglas, Earl of, wounded by arrows at Hamildon Hill, 112
Drawing and loosing the arrow, 76; primitive practice, 76; primary release, 76; Andamanese practice of roughening the butt of the arrow, 77; bulbous butts, 77; Oregon knobbed arrow, 77; absence of nock, 78; secondary and tertiary looses, 78; Mediterranean loose, 79-83; Mongolian loose, 79-83; gloves, leather tips, and rings for

drawing, 81, 83; Assyrian, Egyptian, Persian, and Greek methods of loose, 82; European, American, and Asian looses, 82; African loose, 83; Andaman looses, 83, 84; use of the feet in loosing, 84; methods of the Veddahs and Solomon Islanders, 85
Drayton on arrows, 127
Dress of archers, 176, 204, 214; in the middle ages, 134–136; of R. C. of A. (1677, 1713, 1778, 1813, 1825, 1829), 222, 223
Drury, James, second bearer of Catherine of Braganza Shield, 172
Duel with bows and arrows, 158
Dulwich, meetings at (1794-5), 177, 182
Dyaks of Borneo, their arrow poison, 102

East Berks Archery Society, 418
East Indian method of loose, 82
Eastbourne, G.N.A.M. at (1892), 194
Eastern Archery Association (U.S.), 462
Eaton, Ohio (U.S.), meeting (1885), 453
Ebersberg, stone and bronze implements, &c., found at, 22
Edinburgh, duel with the bow at, 158; G.N.A.M. at, 189; matches at, 255
Edinburgh Salisbury Archers, 284
Edward I., archery in his time, 108; preparation of arrow feathers in his reign, 129; compels males to shoot from the age of seven, 139
Edward II., his archers at Bannockburn, 108
Edward III., Robin Hood ballads in his reign, 6; use of archers by him, 108, 109; at Sluys, 109
Edward IV., use of hand-guns by, 140
Edward VI., confirms pension to Roger Ascham, 164; fondness for the bow, 164; on the penetration of arrows, 431, 433
Edwards, George, score in 1859, 195; defeats Ford in 1860, 272, 279, 419; defeated by him in 1867, 272; holds Championship medal, 279, 419; swordsmanship, 279; modesty of character, 280; mode of shooting, 280; his story of practice with twenty-four arrows, 280; Dean Hole's anecdote concerning him, 281; Champion, 1860-62, 1864, 1866, 424
Effingham, Earl of, 229
Eglinton Castle, archery at, 217
Eglinton, Lord, presents challenge prize to Irvine Toxophilites (1839), 217
Egypt, representation of archers in ancient mural decorations and sculptures, 3, 58 *et seq.*; stone arrow-heads, 18, 20; affinity of ancient bows with modern African, 29, 30; Theban bows, 63-67; difference between Egyptian and modern Turkish or Persian bow, 64; single-stave wooden bow, 66; loose, 82
Elizabeth, Queen, prices of bows in her reign, 122; as an archeress, 164; organises a corps of lady archers, 165
Elliot, Henry, influences size of arrows, 270; discovers the superiority of short feathers, 306
Ellis, Mr., on archery at Tahiti, 98
Ellis, Sir Henry, owner of Henry VI.'s bracer, 161
Elwin, Mr., 413

Elyot, Sir Thomas, on the introduction of archery into England, 105 ; on the decay of archery, 144
Ephesian coins, bows on ancient, 75
Erskine, L. R., 241, 420
Eskimo, of Greenland, their arrow-heads, 18 ; composite bows, 39 ; Eastern, primitive form of composite bow, 47 ; simplest and least efficient form of bow, 51, 52 ; Western, varieties of bow, 52 ; method of loose, 82 ; as archers, 95
Essex, Earl of (1643), 158
Ethiopian bows and arrows, ancient, 73
Eton, shooting field at, 165
Euphorbias (arrow poison), 101
Evans, A. J., on the Asiatic bow on Cretan coins, 74
Evans, Sir John, quoted, 12, 18–21
Everett, C. H., 200, 240, 241 ; method of strengthening bows, 303 ; score in handicap (1880), 414
Ewart, Colonel, quoted, 250
Exeter, G.N.A.M. at, 189 ; G.W.A.S. at, 198

FALCONBRIDGE, Lord, at battle of Towton, 113
Falkirk, archery at battle of, 108
Fastolfe, Sir John, his arrows, 129
Feathers, for war-arrows, 128 ; bequeathed in wills, 128
Feet, use of the, in loosing the arrow, 84
Fergusson, Colonel, his Flodden bow, 224
Fernandez, Gonzalo, on Irish archers in 1527, 120
Fetherston, T., winner of Bugle, 251
Field of the Cloth of Gold, English archers at, 142 ; Henry VIII.'s archery, 162
Fielden, Henry, 229
Fielding, R., 177
Filoselle for bowstrings, 321
Finch, Charles, captain's medal, 248
Finch, Daniel, winner of Bugle, 251
Finch, Heneage. *See* Aylesford, fourth Earl of
Finch, Hon. E., 178, 251
Finch, Mr. (treasurer R.T.S., 1834), 235
Finger-tips, 346, 378
Finsbury Archers, formation of, 167 ; Easter, Whitsun, and Eleven-score targets, 168 ; shooting, 169 ; competitors, 172 ; Mrs. Shaler's bequest to, 172 ; presentation of plate in 1781 to R.T.S., 172 ; meetings, 182, 183 ; bibliography concerning, 474, 475
Finsbury Fields, archery legislation concerning, 142 ; aims or guides to, 167, 175
Firework arrows, 153
Firmam, John, 229
Fisher, Major C. H., his contest with Mr. Palairet, 191 ; scores at Leamington, 195 ; at the Crystal Palace, 197 ; at G.W.A. meeting, 200 ; at R.T.S., 241 ; guest of the W. of A., 247 ; competition with Mr. Nesham for Jubilee prize (1883), 247 ; his reminiscences of Judge Caldecott, 258 ; and of Mr. H. A. Ford, 260 ; letter from Mr. Ford, 263 ; on Rev. John Bramhall, 272 ; with Mr. Palairet at Sandown (1875), 275 ; on Capt. A. P. Moore, 275 ; on Mr. H. C. Mules, 276 ; on Rev. W. Rimington, 277 ; spoilt at the target by the latter, 278 ; on Mr. George Edwards, 279 ; on Mr. T. L. Coulson, 281 ; on Mr. W. J. Gruggen, 283 ; on Peter Muir, 284 ; preference for

barrelled arrows, 310; his loose, 377; finger 'tips,' 378; scores in 1870 and 1872, 421; highest scorer at National Meeting, 1884, 423; Champion, 1871-74, 1887, 424
Fitzstephen, on archery, 108
Five points of archery, Roger Ascham's, 334
Fletchers, 129, 130
Flight arrows, 429
Flodden, its influence on the bow, 141
Foix, Gaston Phœbus, Count of, on bow and arrow, 132
Foley, Lord, 235
Follett, Mr., on Rev. John Bramhall, 273, 274
Ford, H. A., début, 188; injury to his fingers, 190; scores at Leamington, 195; at Crystal Palace, 197; at R.T.S., 240, 241; guest of the W. of A., 247; at the clouts in 1851, 250; on the Double Round (1854, 1857, 1858), 189, 261; his first Championship at Derby (1849), 261, 419; his public scores eclipsed by his private, 261; practice scores, 262; bows, 262, 267, 270; his second best score, 263; quotation from his 'Archery' on his three best scores in private practice, 263; feats in private practice, 265; gold-making at 100 yards, 266; style at the target, 266; method of drawing the bow-string, 267; use of one bow for whole York Round, 267; Major Fisher on his style of shooting, 268; his concentration on his work, 268; nerve, 269; dislike of company at the target, 269; faults, 269; on aiming, 269, 359, 360; size and shape of his arrows, 264, 270, 271; social accomplishments, 271; story told of him, 271; his influence on archery, 272, 411; his twelfth Championship, 272; match with Rev. J. Bramhall, 274; contest with Bramhall and Captain Moore, 275; his best score in public, 279; beaten by G. Edwards in 1860, 279, 419; prefers parallel arrow, 309; on the action of propelling force on flight of arrow, 313; anecdote concerning, 380; score in Crunden competition, 417; in records of G.N.A.S., 419; his greatest score (1857), 419; finest score, 420; Champion, 1849-59, 1867, 424; on modern distance shooting, 428; his longest shot, 428
'Ford's Archery,' on Rev. J. Bramhall, 274; on Capt. Moore, 275; on the flight of arrows, 313; on celebrated scores, 414, 415; influence on American archery, 447
Forest Hall (W. of A.), 244
Fortress Monroe, Virginia (U.S.), meeting (1892), 458
Foster, J., jun., initiates the G.Nor.A.M., 200
Franklin, Benjamin, suggests revival of bows and arrows, 159
Fraser, Dr. T. R., on arrow poison, 101
French archers at Sluys, 109
Friendly Islands, grooved bows in, 42
Froissart's Chronicles, the archer in, 135
Froude, J. A., winner of Crunden Bugle (1862), 416
Fryer, G. E. S., scores of, 240, 241; winner of Crunden Bugle (1871, 1873-75, 1878, 1880), 417; scores on York Round, 276, 420; Champion, 1875, 1892, 424
Fustic. *See* Bows

GALERAN, archery at battle of, 106

Garnett, Robert, captain's medal, 248
Garvagh, Lord, 235
Gauntlet-shape bracer, 322
Genoese archers at Sluys, 109
Gentlemen's Society of Archers, Kilwinning, 216
George IV., his encouragement of archery whilst Prince of Wales, 176; patron of R.B.B., 204; of R.Kent.B., 208; Bartolozzi's print of him, 208; visits Edinburgh, 221; patron of R.T.S., 230; designation of his 1792 ranges, 413
George, J. T., 420
George, Mrs. T. F. (U.S.), 452
Gibbs, Mrs. A. H. (U.S.), Championess, 450, 451
Gibson, Mr., 187
Gillespie, Sir John (sec. R.C. of A.), 255
Gilpin, Mr., 178
Girdlestone, Mr., 412
Glasgow, D., 187
Glenn, Mr., 178, 179, 413, 414
Gloves, 81. *See* Shooting-gloves
Goose, shooting at the, in Scotland, 219
Goose wings for arrows, 112, 128
Govett, F. A., scores of, 197, 240, 241, 420, 421
Govett, F. L., 201, 240, 241, 420, 421; winner of Crunden Bugle (1890-92), 417; Champion, 1891, 424
Græco-Syrian coins, bows on, 75
Grand Leamington and Midland Counties Meeting (1856), 279
Grand National Archery Meeting, incident at, 8; a new era in archery, 183; absurd customs, 183, 184; originating idea, 184; prizes suggested, 186; on the Knavesmire, York, 186; prize-list, 187; second and third meetings at York, 187; at Derby, 188; début of Mr. H. A. Ford, 188; at Edinburgh, 189; Leamington, 189, 274; Shrewsbury, 189; Cheltenhan, 189, 261, 279; Exeter, Bath, and Liverpool, 189; proposal that gold medal be given absolutely to Mr. Ford, 189; injury to Mr. Ford's fingers at Alexandra Park, 190; from 1862 to 1879, 190–193; contest between Mr. Palairet and Major Fisher, 191; presentation to Mr. Luard, 192; Mr. H. H. Palairet hon. sec., 192; associated club substituted for local prizes, 193; getting rid of a troublesome spectator, 193; with G.W.A.S., 194; from 1879 to 1893, 192–194; jubilee at York, 194; Brighton, 272; Sandown Park, 275; character of, 392, 395; scores at, 419
Grand National Archery Society, origination of, 188; foundation, 190; abolition of championships and badges, 198; alterations in targets, 401, 402; committee on handicapping, 442. *See* G.N.A. Meeting
Grand Northern Archery Meeting, 200, 201, 202
Grand Western Archery Society, 194, 197–200, 421, 422
Granger, W. N. (Buffalo, N.Y.), bowmaker, 468
Grant, Captain, on the archery of the natives of Equatorial Africa, 100
Grant, Mr. (bowmaker), 224
Granville, Bernard, captain's medal, 248
Granville, Col. Frederick, sec. of W. of A. (1851), 244; on Mr. G. Edwards, 280
Gray, Adam (U.S.), scores of, 450
Gray, Mr. (sec. Thirsk Bowmen), 185, 186
Gray, W., jun., 187
Grease box, 326
Great Malvern, G.N.A.M. at, 193

Greek representations of archers on coins and vases, 3; methods of loose, 82
Greenland, stone arrow-heads in, 18: smallness of bows, 52
Gregson, Mr., hon. secretary G.N.A.M., 194, 201; Champion, 1889, 1893, 424
Gresley, R., cited, 243; captain's medal, 248
Grew, Mr., 178
Grimstone, Miss, 211
Gruggen, William John, his mechanical loose, 283, 314
Guiana Indians, their manufacture of wourali, 102
Guild of St. Sebastian at Bruges. Charles II.'s presentation of a mace to, 174
Gulail, Indian, 119
Guyenne, archers at, in 1512, 141
Gwyrsylt, Royal British Bowmen at, 202

HACQUEBUT, the, ranked with long-bow, 145
Hadow, P. D., winner of Crunden Bugle (1840), 416
Hall, on archery at the battle of Towton, 113; on Cornish archers in 1446, 126; on arrows, 128; on dress of archers in 1513, 134
Hall, Mrs. George S. (U.S.), scores of, 452
Hamilton Hill, use of the long-bow at battle of, 112
Hampton Court, archery at, in 1681, 175
Hand-guns, 138-142, 148
Handicapping, 408, 438; penalising an archer for past successes, 439; deducting percentages from score, 439; taking the average of a fixed number of previous scores, 439; Colonel Lewin's system of permanent rating for ensuing season, 440; dividing archers into classes according to scores, 440; deciding by points, 441; points *v.* score, 442; value attached to different rings, 442; average value of hits, 443, 444
Handles of bows, 343. *See also* Bows
Hardwick, meeting of R.B.B. at (1792), 206
Hare, H. B., 198, 199
Hargrove, Mr., on the first G.N.A.M., 186
Harold, his death, 106
Harquebuziers, their privileges in 1567, 146
Harris, R., M.D., winner of Crunden Bugle (1877), 417
Harrison, A. P., his 'Science of Archery,' 181
Harrogate, G.Nor.A.M. at, 201
Harrow School, foundation of, 165; shooting paper, 165; Silver Arrow, 165; archery relics preserved in library, 166
Hassard, Mr., 413
Hastings, archery at battle of, 106
Hatfield Archery Society, 211
Hawkins, Sir Richard, on the use of musket arrows (1591), 153
Haworth, Richard, 229, 413
Hawtrey, Rev. S., 193
Heath, Dr., stops shooting for Silver Arrow at Harrow, 166
Heath, K. T., scores of, 420
Henry I., his encouragement of archery, 108
Henry V., wounded by an arrow at Shrewsbury, 112; at Agincourt, 115; bowyers and fletchers in his army, 129
Henry VI., wounded by an arrow at the battle of St. Albans, 112; fondness for archery, 161; his bracer, 161
Henry VII. as an archer, 162
Henry VIII., pay of an archer in his time, 118; imports bows from Venice, 122; prices

of bows in his reign, 122; bows marked with rose and crown, 126; dress of his archers at siege of Terrouenne, 134; requires all males to practise the long-bow, 140; Archers' Guard, 142; guarantee of archers in treaties, 142; patron of archery, 162; a good shot, 162; privy purse expenses relating to archery, 162; awards pension to Ascham for his 'Toxophilus,' 164
Herbert, Lord, of Cherbury, on long-bow versus caliver, 141
Hereford, G.N.A.S. at, 190
Herefordshire Bowmen, 212
Herodotus, on the Arabian bow, 70; on Xerxes' archers, 72
Hertfordshire Archery Society, 211
Heseltine, James, 229
Hesse, Landgrave of (1597), procures bows and arrows from England, 132
Hickory bows. *See* Bows
Hickson, Dr., his Javan horn bow, 48
Higgins, Dr., 178
Higginson, Rev. J., 184, 186–189, 194; Champion, 1844, 424
Highbury Barn, targets of R.T.S. at, 228
Highfield, Mr., advocates (1577) use of foot and horse archers, 147
Highland Archers of Wyoming (U.S.), 461
Highmore, Mr., on the amalgamation of F.A. with H.A.C., 172 *n.*
Hippisley, H., winner of the Crunden Bugle (1846, 1847, 1852), 416
Hittite sculptures, archery on, 66, 67
Hod, Robyn, 6
Hod, Simon, 6
Hole, Rev. Reynolds, in jeopardy while marking, 250 *n.*; anecdote of G. Edwards, 281
Holinshed, on the skill of Henry VIII. with the bow, 162
Hollins, Miss, Championess, 1875, 424
Holmes, E. A., 197, 261; Champion, 1865, 1870, 424
Holyrood, archery at, 214
Homer, on the bow, 48, 68–72
Honourable Artillery Company, patents (1537, 1605, 1633), 142; archers' division, 160, 229; archers' marks, 167; Society of St. George, 167; supposed descent of R.T.S. from archers' division, 228; letter from and conference with R.T.S., 229; bibliography concerning, 473 *et seq.*
Hooker, Thomas, 229
Horn bows, 46 *et seq.* *See* Bows
Horniblow, Mrs., scores of, 195, 197; Championess, 1853, 1856, 1858, 1862, 1863, 1869–73, 1880, 424
Horse-archers on Assyrian mural sculptures, 59; deterioration of, 146
Horton, Mr., 413
Hotspur, death of, at Shrewsbury, 112
Hottentots, as bowmen, 29
Hoveden, Roger de, on archery at battle of the Standard, 107
Howard, B. Douglas, his account of an Ainu deer-hunt, 95; description of Ainu mode of preparing arrow-poison, 96
Howard, Lord W. (1530), archery match between six of his suite and six Scots, 163
Howell, M. C. (U.S.), scores of, 453, 459, 460, 461
Howell, Mrs. M. C. (U.S.), Championess, 451–454, 456–461, 463, 465
Howman, H., captain's medal, 248; winner of Bugle, 251; 255
Howman, Mr., score of, 418

Howman, Rev. E. J., sec. of W. of A. (1871), 244; captain's medal, 248; 254
Hubback, Mr., 187; Champion, 1846, 424
Hudson Bay Indians, their fire-laden arrows, 93
Hughes, Mr., score, 418
Hughes, Mr. (1794), 413
Hull, meetings at, 181
Hungerford, Sir Edward, Finsbury Archers' steward (1676), 169; initiates the Catherine of Braganza Shield, 170; at the archery in Hyde Park in 1661, 174
Hunter, Mr., on Robin Hood, 6
Hurte, Sir John, at archery with Henry VIII., 162
Hussey, Rev. Eyre W., 195, 240; Champion, 1894, 424
Hussey, Mrs. Eyre, 201
Hyarri, used for arrow poison, 102
Hyde Park, archery in (1661), 174
Hyrcanian bows, 72

'ILIAD,' quoted, 68–70
India, stone arrow-heads in, 18; composite bow, 52; drawing the bow with the foot, in, 85
Inge, C. H., captain's medal, 248; 253–255
Ireland, statutory provisions for importing bows and arrows into, 141; bows used against Shan O'Neil, 146
Irish archery, 120
Irvine, the papingo at (1665), 214, 215
Irvine Toxophilites, formation of, 217; bodyguard to the Queen of Beauty at Eglinton (1839), 217; elevated target, 217
Izzard, Mr., his bowstrings, 316

JACKSON, F., on African bowmen, 99, 100
James I. (of England), grants patent to H.A.C., 142
James I. (of Scotland), his archery laws, 213
James II. (of Scotland), his injunctions concerning archery, 214
James III. (of Scotland), his archery laws, 214
James IV. (of Scotland), archery in his reign, 214
James V. (of Scotland), his archery match with the English ambassador, 163; archery in his reign, 214
James, Lady Jane, patroness of R.T.S. (1789), 230
Japan, stone arrow-heads in, 18; bows in, 41, 45, 46
Japanese shooting-glove, 81
Jarvis, Mr., 178
Java, horn bows in, 48
John o' Gaunt Society, 209, 243
Judges, duties of, at public meetings, 374, 406

KELLER, DR. F., quoted, 12
Kelsal, of Manchester (bowmaker), 228, 296 *n.*
Kempe, A. J., on arrows, 126
Kenyon, Mr., 413
Kern, Mrs. A. (U.S.), 457, 458, 461
Kilpont, Lord, in command of bowmen at Tippermuir, 158
Kilwinning, the papingo at, 214, 215; societies of archers at, 216; crowning the winner, 217
Knavesmire, York, the first G.N.A.M. at, 186
Knobkerry, the, 10
Knoblaugh, C. B. (U.S.), 457
Knoblaugh, F. (U.S), 460
Knockmoy, abbey of, archery on a fresco in, 120
Kynaston, Mr., 206

LADIES' archery, in 1605, 163; institution of County Challenge Prize, 193; faulty method of nocking, 344;

superiority in loosing, 345; style at the targets, 371, 372; 'continuous drawing,' 374; practice of round, 188, 382; beginning of modern, 385; as an amusement, 385; practising grounds, 386; difficulties, 387; practical instruction, 388; before a looking-glass, 388; costume, 389; Ladies' day at the Tox., 389, 395; bows and arrows, 390, 391; keeping score, 391; club secretaries, 392; G. N. A. M., 392; sketch of a public meeting, 393; duties of the target captain, 393; the judge, 394; matches with gentlemen, 395, 423; prize-giving, 395; money prizes, 396; 'spiders,' 396; money made at archery, 396; professionals, 396
Ladies' bracer, 322
Ladies' pocketbook, 211
Ladies' shooting-gloves, 323
Lake dwellings of Switzerland, finds of arrow relics at, 12, 14, 22
Lancashire Bowmen at Cannock Chase in 1791, 178
Lancaster, C. (gunmaker), on penetration of shot-guns, 434
Lancewood bows. *See* Bows
Lang, Andrew, quoted, 7
Langland's 'Vision,' quoted, 6
Latham, Mr., on Finsbury Archers, 172
Laugerie Haute, flint arrowhead from, 13
Lawrence, Mr., 418
Leake, Sir F., on ladies' archery in 1605, 163
Leamington, meetings at, 182 *n.*, 189, 191, 193, 274, 422
Leamington and Midland Counties Meeting, 195, 196
Leeds, Duchess of (1791), 211
Leeds, Duke of, President of R.T.S. (1789), 230, 413
Legh, Miss, her scores, 196, 197, 199, 201, 421, 422; Championess, 1881, 1886–92, 424
Legh, Mrs. Piers, her scores, 196, 197, 199, 421, 422; Championess, 1882–85, 424
Leicester House, R.T.S. grounds at, 228
Leith, Dr., 178
Lever, Sir Ashton, 176, 202, 205; parentage and education, 226; collection of live birds, 227; gift of training animals, 227; his museum, 227; death, 227; share in the formation of R.T.S., 228; 229, 243
Lewin, Colonel, R.E., hon. sec. C.P.A.M., 196, 197; his bracer, 322; system of handicapping, 440
Lillingston, W., captain's medal, 248
Lincoln, G.Nor.A.M. at, 201
Lister, Mrs. E., Championess, 1860, 1861, 424
Littledale, Miss, 178
Liverpool, G.N.A.M. at, 189; G.Nor.A.M. at, 201
Livingstone, Dr., bow found by him near Lake Nyassa, 40
London shooting-fields, 166
Long, J., on Indians firing houses with arrows, 92
Long-bow versus crossbow, in quickness of discharge, 115; ranked with hacquebut, 145; range and penetration, 425; fabulous distances, 425; hitting the clout in Shakespeare's time, 426; Roberts' instances of long-distance shots, 427; Mr. Ford on same, 428; his own longest shot, 428; Mr. C. J. Longman's personal experience of flight shooting, 429; arrows suitable for flight, 429; penetration of arrows, 430–435. *See* Bow
Longfellow, quoted, 88
Longman, C. J., scores of, 240, 241; winner of Crunden Bugle (1889), 417; Cham-

pion, 1883, 424; his longest shot, 429; experiments at arrow penetration, 431–435; with bullets, 435
Loosing the arrow. *See* Drawing, &c.
Lowten, Thomas, 229
Luard, Octavius (sec. G. N. A. M.), 188, 190, 192, 198; his register of friends' performances, 253; winner of Crunden Bugle (1848, 1849), 416
Lubbock, Sir J., cited, 12
Luschan, Herr von, on Wissmann's Shiré bow, 40; his analysis of an ancient Egyptian bow, 63–67; on West African drawing rings, 83
Lutz, ancient bow from, 16
Lycian bows and arrows, ancient, 73
Lyme, archery employed at siege of, 157
Lyon, John, founder of Harrow School, 165

Macnaughtan, Alexander, his levy of Highland bowmen, 153, 154
Macoushi, the, their wourali arrow-poison, 102
Madocks, H., 208
Madocks, J. E., founder of the Royal Kentish Bowmen, 208
Mahmoud Effendi, as an archer, 52, 103, 104
Maish, Miss L. (U.S.), 452
Maitland, E., 264; on Mr. Ford, 267, 268; Champion, 1848, 424
Malay spring-trap, 11
Mallets, archers', 115, 133
Manadon, Devon and Cornwall A.S. at, 212
Mandans, their exercises with the bow, 88
Mariner, W., on archery at the Tonga Islands, 98, 99
Markham, Gervase, frontispiece to his 'Art of Archerie,' 173
Marking at the clout, 249
Marks or rovers, 166, 167
Marsh, Mr., 418
Marshall, Mrs., 197; Championess, 1878-79, 424
Martin, Mr., 413
Martin, Sir Henry, Bart., 235, 417; score, 418
Mary Queen of Scots, as an archeress, 214
'Mary Rose,' bows from, 124, 126
Mason, Richard Oswald, on the long-bow, 160
Matabele, spear used by, 29
Maul, archers', 115, 133
Maxson, L. W. (U.S.), Champion, 455; scores, 456–461, 463–465
Mechanical loose, 314
Medals to prize arrows, 214
Medes, bows of the, 72
Meetings, management of public, 398; duties of secretaries, 398 *et seq.*; arranging for following year's meeting, 399; settling details of ground, 399; the lady-paramount, president, and patrons, 399; hotel accommodation, 399; luncheon on ground, 400; fixing date, 400; sending out circulars, 400; securing officials, 401; arrangement of targets, 401; duties of captains, 402; printing target-list, 403; measuring and squaring ground, 403; duties of secretary on the ground, 405; duties of judges, 406; checking scores and transfers, 407; making out prize-list, 408; handicaps, 408; giving prizes, 409
Melanesian grooved bows, 41
Meriden ground, 249, 253, 255, 256
Merridew, N., 195, 196
Merry, Mr., 418
Metcalfe, T. T. S., 195, 240, 241
Mexico, stone arrow-heads in, 18
Meyrick, Rev. E., 187, 418

Meyrick, Sir S. R., on arrows, 126
Michiel, Giovanni, on English archers in 1557, 145
Middle ages, military archery in the, 105 *et seq.* *See* Military Archery.
Midland and Leamington Meeting (1858), 261
Midland Counties, institution of, Championship of the, 195
Military archery in the middle ages, 105; introduction of long-bow, 106; the battle of Hastings, 106; Galeran, 106; Northallerton, 107; Welsh archers in 11th cent., 107; battle of the Standard, 107; wars of the Edwards, 108; Falkirk and Bannockburn, 108; Halidon Hill, 109; naval battle of Sluys, 109; battle of Blanche Tache, 109; Créçy, 109; Poictiers, 110; Nogent and Auray, 110, 114; Navarrete, 111, 114; sheriffs to provide bows and arrows for the King's service, 111, 112; Hamildon Hill, 112; Shrewsbury, St. Albans, and Towton, 112; superiority of English archers in the 14th cent., 114; mounted archers for the Scotch war in 1544, 114; Agincourt, 115; long-bow versus crossbow, 115; time occupied to discharge the crossbow, 115, 116; pay of archers, 117, 118; bows and arrows in terms of tenure of lands, 119; Irish archers in 1527, 120
Miller, W. S., 248, 254, 255
Milner, George, of Hull, 181
Moilliet, T. Galton, 195
Montgomery, J., on the bow and harquebuze, 149
Montpellier Gardens, Cheltenham, archery at, 260, 262
Montrose, bowmen in his army at Tippermuir, 158
Moore, Captain A. Penistone, 261, 264, 265; on Mr. Ford, 266; matches with Ford and Bramhall, 275; passion for bell-ringing, 275; scores, 419, 420, 423
Moore, H. O. H., winner of Crunden Bugle (1872), 417
Moore, Mr., 418
Moorhouse, Mr., 413
Moosseedorf, bone arrow-head found at, 22
Morat, battle of (1476), harquebuziers at, 138
Morres, Sir Cristopher, overseer of the science of artillery (1537), 142
Morres, T., 418
Morris, Samuel, yeoman in ordinary of Charles I.'s bows, 173
Morrison, Miss F. (U.S.), 451
Morse, E. L. (U.S.), 450
Morse, Professor E. S., on methods of arrow release, 76 *et seq.*
Mortillett, Gabriel de, cited, 12, 14, 16
Morton, Miss E. T. (U.S.), 450
Mount Mascal, R.K.B. at, 208
Mounted archers, 114, 146
Muir, David, 216
Muir, P. (bowmaker), 103, 187, 216, 224, 225, 263, 264, 284, 420; Champion, 1845, 1847, 1863, 424; longest shot, 428
Mules (Belgian), his secret in bowstring manufacture, 316
Mules, H. C., scores of, 240, 276, 420; mode of 'drawing,' 276; best scores made in grounds of R.T.S., 276; his screw tip, 324; winner of Crunden Bugle (1853-60), 416
Murdoch, J., on Eskimo bows, 51, 52
Musket arrows, 152, 153
Musselburgh Arrow medals, 214
Mycenæ, ancient relics from, depicting archery, 68, 69

NADAILLAC, Marquis de, cited, 16
Nash, D. A. (U.S.), 450, 451, 466
National and Ohio State Association meeting, 457
National Archery Association (U.S.), meeting, &c., 447 *et seq.*
National Round (U.S.), records at, 449 *et seq.*
Natural Bridge, Virginia (U.S.), meeting (1891), 458
Navarrete, bows against slings at battle of, 111, 114
Neade, William, his 'Double-armed Man,' 154; commissioned to teach the use of bow and pike together, 155; petitions that trained bands follow this practice, 156
Nelson, H., 418
Nerve, in archery, 189, 273, 278, 359, 364, 369
Nesham, C. E., drawing with four fingers, 79; at Bath, 194; at Leamington, 195; competition with Major Hawkins Fisher (1883), 247; winner of Crunden Bugle (1881–83, 1885–88, 1893, 1894), 417; scores, 200, 201, 240, 241, 420, 421; Champion, 1884–86, 1888, 1890, 424
New Guinea, bows in, 40–42; Javan horn bow, 48; arrows, 78
New Hebrides, bows in, 40–42
New Zealand, non-use of the bow in, 18
Newcome, Miss, 206
Newdigate, Colonel George, 255
Newman, Mrs. J. P. (U.S.), 452, 457
N'gwa (K'aa), a grub, used for arrow-poison, 101
Night shooting for pastime, 206
Nilotic drawing ring, 81
Nocking the arrow, 343–345
Nogent, defeat of English archers at battle of, 110, 114
Norfolk, Duke of, price of arrow-heads in his accounts (1462–69), 130
Norfolk, Duke of, President of R.T.S. (1788), 230
Norman archers, 106
North America, introduction of the composite bow in, 47, 48
North American Indians, their method of loose, 82; skill with the bow, 87; exercises of the Mandans, 88; use of arrows without nocks by the Shoshones, 89; shooting buffaloes, 89–92; shooting fish, 92; attaching burning matter to arrows, 92; Mexican archery against Spanish armour, 93; Appalachian bowmen against De Soto, 94; use of poisoned arrows, 95; Eskimo archers, 95
Northallerton, English archers at battle of, 107
Northumberland, Earl of, bearing-arrows used in his expedition to Terrouenne, 130
Norton, Captain, winner of Royal Cup, R.T.S. (1834), 235; winner of Crunden Bugle (1837, 1843, 1844), 416; scores, 418
Norton, Lord, 245
Norwich, G.N.A.S. at, 190
Norwood, Ohio (U.S.), 1890 meeting, 457
Noyes, Mrs. J. S. (U.S.), 449
Nuremberg merchants, their traffic in bows, 124
Nyassa, Lake, form of bow used near, 40

OBSIDIAN arrow-heads, 18, 20
Odysseus as an archer, 68, 71
Oglethorpe, General, 172, 229
Ohio Round, the, 448
Ohio State Archery Association (U.S.), 462
O'Neil, Shan, witnesses a curious archery feat, 146

Oregon Indians, bow used by, 39, 40 ; knobbed arrow, 77
Ostend, use of arrows with fireworks at siege of, 153
Outfit of an archer in sixteenth century, 134
Oxford, G.N.A.M. at, 190, 194

Pacific Archery Association (U.S.), 462
Pacific Islands, natives of, as archers, 98
Packington Outwoods, 243
Pads, Pettit's penetration, 434
Palæolithic implements in river-drift, 12
Palairet, H. H. (R.T.S.), contest with Major Fisher, 191 ; hon. sec. G.N.A.S., 192 ; efforts in financing meetings, 192 ; scores, 197, 200, 241, 275, 421 ; Champion, 1876, 1878, 1880–82, 424
Palmer, C., captain's medal, 248
Palmer, H., winner of Bugle, 251
Palmer, Mr., 413, 414
Palmer, T., 177
Palmer, W., 177, 178, 245
Pandarus, as an archer, 68, 70
Papingo, or popinjay, in Scotland, 214 *et seq.*
Parallel arrows. *See* Arrows
Pare, Ambroise, on arrow-heads, 130
Paris as an archer, 68
Parlby, Rev. J. Hall, 212
Parson, Mr., his grounds at Bitton, 199
Patagonia, stone arrow-heads in, 18
Pattison, Martin, yeoman-supernumerary of Charles I.'s bows, 173
Pawnee archery feat, 90
Peacham (1638), on arrows, 128
Peacock feathers for arrows, 128
Peale, Franklin, on American archery, 446
Peckitt, H., and the origin of the G.N.A.M., 184, 186, 187, 198 ; opposes proposal to give Mr. Ford gold medal absolutely, 189
Peddinghaus, L. L. (U.S.), Champion, 449
Peebles, silver arrow of, 215
Peel, Sir Robert (2nd), 245
Penelope, her test of the suitors, 71
Perrott, Mr., 412
Perry, F. E. (U.S.), 451
Perry Keene, Rev. C. J., 194, 197 ; his phenomenal score at Lincoln, 201 ; preference for the barrelled arrow, 310 ; scores, 420, 423
Persia, archers in ancient sculptures, 3
Persian bows, 52, 54–57, 64, 72 ; method of loose, 82
Peru, stone arrow-heads in, 18
Peters, W. (bowmaker), 196, 418 ; winner of Crunden Bugle (1836, 1839, 1851), 416
Pettit's field-gun penetration pads, 434
Philadelphia, United Bowmen of, 446
Phillips, Mrs. A. M. (U.S.), Championess, 454–457, 461, 463
Pictures and prints illustrating archery, 501 *et seq.*
Pigot, Rev. J. C., 188, 198
Pinckney, Mrs. P., 197
Pinkie Cleugh, English archers at battle of, 144
Pitt, Right Hon. George, 229
Pitt Rivers, General, his theory of the origin of the bow, 10, 11 ; on grooved bows, 42 ; on the composite bow, 50, 57
Pocket, arrow, 326
Poictiers, archers in intrenchments at battle of, 110
Point Barrow, bow from, 52
Poisoned arrows, 71, 95 ; use of by Ainus, 96 ; by Bushmen, 99 ; by African tribes, 100 ; poisons, 101–103
Pole, the, 329

Pollock, H. M. (U.S.), 456
Pollock, Miss J. (U.S.), 453
Pollock, Mrs. H. M. (U.S.), 452
Pollock, Sir W. F., on the R.T.S., 239
Polynesia, bows in, 25
Pond, Mrs., 197; Championess, 1874, 424
Pontvallain, archery at battle of, 114
Portland, Duke of (President R.T.S., 1887), 236
Portman, M. V., his photographs and notes on Andamanese bow-making, 31 *et seq.*; on Andamanese arrow-making, 77; on the Andamanese loose, 83; on skill of Andamanese with the bow, 97, 98
Potomac Round, the, 448, 461
Potter, Mr., 178
Praed, Sergeant, his support of archery, 197
Prehistoric archery, 9; origins of weapons for killing wild animals, 9; beginnings of the bow, 10; Malay spring-trap, 11; arrow-heads, 11-14, 18-22; palæolithic implements, 12; stone and flint arrow-heads in cave deposits, 12-14; neolithic or polished stone age, 14; bow in a turf palafitte at Robenhausen, 16; bow in peat near Cambridge, 16, 17; countries in which stone arrow-heads are found, 18; materials of which they are composed, 18; forms of stone arrow-heads, 18-22; triangular and barbed arrow-heads suggested by shape of sharks' teeth, 22; bronze and bone arrow-heads, 22
Prescot, O. K., 195, 420
Price, C. K., winner of Crunden Bugle (1850), 416
Prices of archer's outfit in fifteenth century, 134; bows in 1541, 144
Prickshafts, 119
'Prince Arthure and his knightly armory of the round table,' society of, 167
Prince Consort (Patron of R.T.S., 1840), 235
Pringle, Sir James (President R.C.A., 1794), 221
Prizes for skill with musket or long-bow in St. George's Fields, 174; for archery, 186, 187, 193, 215, 216, 395, 396, 409; question of advisability, 406; pothunting, 436; money, 437; sweepstakes, 437; levying contributions on outsiders, 437; local guarantees, 437; plethora of, 438; rewarding mediocrity, 438; for the best gold, 438
Pullman, Illinois (U.S.), meeting (1884), 452

QUEEN, the, in Scotland, 221
Quivers, bequeathed in wills, 119; 326

RACKS for arrows, 328
Rameses II., Egyptian bow of his time, 63-67
Rat-shooting with the bow, 99
Rattray, N., 241
Ratzel, Dr. Friedrich von, on African bows, 25, 29, 31, 67; traces affinity between Africans and Melanesians through their grooved bows, 41
Rawson, James, his long shot, 427
Reflex bows, 48
Regent's Park, R.T.S. grounds and hall at, 233 *et seq.*
Rhé, Highland bowmen in expedition to, 154
Richard Cœur de Lion, archery in his time, 108
Richard II., orders his servants never to travel without bows, 118; his Archers of the Guard, 114

Richardson, W. J., 241; winner of Crunden Bugle (1861), 416
Richmond, Surrey, G.N.A.S. at, 191
Rickards, Mr., 412
Rimington, Rev. William, 197, 200; his influence on size of arrows, 270; personal characteristics, 277; faulty style, 277; his public match shooting, 278; record for 60 yards, 278; boisterousness at the target, 278; Champion, 1868, 1869, 1877, 424
Rings for drawing, 81, 83
River-drift, palæolithic implements in, 12
Robenhausen, ancient bow at, 15, 16; obsidian arrow-head at, 20
Roberts, Mr., on Mahmoud Effendi's feat, 103, 104; presents the bow Poictiers to W. of A., 251; on backed bows, 296 *n.*; on celebrated archers, 414, 415; on long shooting, 427
Robin Hood, conflicting views concerning, 5
Robin Hood Archers, 178
Robin Hood ballads, 5, 6
Robinson, G., 187
Robinson, W., winner of Crunden Bugle (1838), 416
Robinson, W. B. (U.S.), scores of, 460
Rocheford, Lord of, in an archery match with Henry VIII., 163
Romans, archery among the, 75
Roper, D. Trever, 202 *n.*
'Rovers,' rule for shooting at, in Scotland, 219
Roving, 467
Royal British Bowmen, Princess Victoria present at meetings of, 180; meeting places and members, 202; at Gwyrsylt, 202; resolution of 1794 on cessation of meetings, 203; Sir Foster Cunliffe first president, 203; his 'Records,' 203; quaint rules on dress, 204; dining regulations, 204; Prince Regent patron, 204; freedom of the society, 204; election of Bard, 205; proceedings at Wynnstay, 205; scores, 206; shooting by night, 207; meetings discontinued, 179, 203, 207; members engaged in defence of country, 207; meetings resumed, 207; Prince Regent again patron, 207; new form of target, 207; curious ladies' claim, 207; freedom of R. C. of A. accorded to, 222; archery introduced to ladies by, 385
Royal Company of Archers, Scotland, silver arrows of, 214; formation, 218; constitution, 218; charter of incorporation, 219; shooting at the goose, 219; rule for shooting at 'rovers,' 219; clouts, 220; bowmakers, 220; notable shots, 220; convivialities, 221; bodyguard on visit of George IV. to Edinburgh, 221; honours from Royalty, 221; presented with stand of colours by William IV., 221; bodyguard to her Majesty, 221; shooting practised, 222; exchange of freedom with English societies, 222; varieties of uniform, 222; prizes, 223; bows in their possession, 224; hospitality, 225; adherence to obsolete statutory distances, 242; present silver bowl to W. of A., 246; arrows, 251; contest with W. of A., 252; Peter Muir bowmaker to, 284; bibliography concerning, 476 *et seq.*
Royal Foresters, 210; rules as to election, 210; meeting place, 210

Royal Kentish Bowmen, send freedom to R.B.B., 205; foundation, 208; Prince Regent patron, 208; freedom of R.C. of A. accorded to, 222; visit to the W. of A., 247
Royal Scottish Archers. *See* Royal Company of Archers
Royal Toxophilite Society, Ladies' day, 42, 237, 389, 395; possessors of Mahmoud Effendi's bow, 52, 103; send freedom to R.B.B., 205; exchange of freedom with R.C. of A., 222; its founder, 226, 227; grounds at Leicester House, 228; various targets, 228; joins archers' division of H.A.C., 229; Prince of Wales patron (1787), 230; Presidents and Lady Patroness (1787–89), 230; members (1791), 230; ground in Gower Street, 230; decadence from 1793 to 1797, 230; Mrs. Crespigny Lady Patroness, 231; transference to Highbury, 232; at Lord's, 233; at Mr. Waring's ground, Bayswater, 233; William IV. patron, 233; at Regent's Park, 233; interior of present hall, 234; opening ceremony at Regent's Park, 235; Prince Consort patron, 235; assumption of title 'Royal' (1847), 235; Lord Ward undertakes rent of ground, 236; Mr. Spedding pays rent, 236; Prince of Wales patron (1870), 236; Duke of Portland president (1887), 236; arrangements of the shooting season, 236; cups, shield, and arrows, 237; position in archery world, 238; Grand National Championship, 238; a day at the 'Tox.,' 239; best scores in 1893, 240; scores of 500 and upwards (York Round, 1856–94), 240, 241; visit to W. of A., 247; Mr. H. C. Mules's score (1858), 276; Wilkinson practice medal score, 276; Rev. W. Rimington's record for 60 yards, 278; loss of records between 1804 and 1836, 415; list (1836–94) of winners of Crunden Bugle, 416; handicap (1881, 1883, 1888, 1890), 421; matches between ladies and gentlemen, 423; adoption of Colonel Lewin's handicapping, 440
Rutland, Duke of, at archery in Finsbury Fields, 172

St. Albans, Henry VI. wounded by an arrow at battle of, 112; archery at, 165
St. Andrews, archery at, 214
St. Andrews University, silver arrows in competition, 215
St. Clair, Mr., of Roslin, 220
St. Edmund, representation of his martyrdom, 107
St. George, cross of, on English archers' dress, 134
St. George's Fields, archery at, 174
St. Leonard's Archers, made 'Queen's Royal,' 180; her Majesty's prize, 180; 418
St. Leonard's College, St. Andrews, student archers of, 215
St. Mark's School, Windsor, G.N.A.S. at, 193
St. Mungo Archers, Scotland, 217
St. Salvator's College, St. Andrews, student archers of, 215
St. Sebastian, representation of his martyrdom, 111; Guild of, at Bruges, the Queen a member, 180
Sakhalin, Ainu deer-hunting at, 95, 96
Salisbury, G.W.A.M. at, 198

Salisbury, Marchioness of (1791), 211
Saltcoats Archers, Scotland, 217
Salzburg, bows obtained from, in sixteenth century, 124
Sandown Park, G.N.A.S. at, 191, 275
Savage archery, 86; skill of North American Indians, 87 *et seq.*; feat attributed to Hiawatha, 88; Indians shooting buffalo on horseback and disguised as wolves, 89-92; shooting fish, 92; firing houses with the bow, 93; Mexican and Floridan bows against Spanish firelocks, 94; poisoned arrows, 95; Eskimo bowmen, 95; Ainu deer-hunting, 95, 96; Andaman Islanders, 97; the bow in the Pacific Islands, 99; African bowmen, 99; skill of the Bushmen, 101; use of blowpipe and sumpitan, 102; South American Indians' use of wourali, 102, 103
Saxons, early archery among, 105
Schoolcraft, H. R., on North American Indian shooting, 90; account of De Soto's expedition, 94
Schrader, quoted, 1
Scores, celebrated, 410; early method of keeping records, 411; system of recording hits and gross value in money, 412; variation in size of targets, 412; scoring of R.T.S. in 1794, 412; Mr. Anderson (1795) and Mr. Everett (1880), 414; Mr. Brady (1795), 415; Mr. Peters (1836), 415; list of winners of Crunden Bugle, 416, 417; at Benham Park in 1835, 418; at meetings of G.N.A.S., 419; Mr. Ford, 419, 420; Mr. Edwards, 419; high level of present, 420; ladies' scores, 422; highest lady records, 422; matches between ladies and gentlemen, 423; lady and gentlemen champions from 1844 to 1894, 424
Scoring, 391
Scoring book, 327
Scorton Arrow, competitions for, 175, 182; suggests the G.N.A.M., 184; bibliography concerning, 475
Scotch archers (1298), 108
Scotland, archery in, 213; laws of the early kings, 213, 214; sport at the papingo in the 17th cent., 214; silver prize arrows, 214, 215; university competitions, 215; societies of archers at Kilwinning, 216; the Irvine Toxophilites, 217; societies in the West, 217; National Archery Meeting, 217; Royal Company of Archers, 218 *et seq.*; goose-shooting, 219; dress, 222; prizes, 223
Scott, T. F. (U.S.), 455-459
Scottish Archer Guard of France, 218
Scottish Archers, Royal Guard of, bibliography concerning, 472
Scottish National Archery Meeting, 217
Scythian bow, the, 70, 72; archery, 74
Seabright, Miss (1791), 211
Secretaries, duties of, 392, 398 *et seq.*
Self-bows. *See* Bows
Seymour, Lady, Queen of Beauty at the Eglinton Tournament (1839), 217
Shakespeare, on archery, 426
Shaler, Elizabeth, her bequest in 1693-4 to Finsbury Archers, 172
Shark's tooth, fossil, a pattern for arrow-heads, 21, 22
Sharpe, J., on Mr. Ford, 271, 272; on Rev. W. Rimington, 277; on Mr. Coulson, 282; on Mr. Gruggen, 283

Sharples, James, 229
Shawan, Mrs. J. T. (U.S.), 453
Shawan, J. T. (U.S.), 456, 457, 460
Shepheard, Mr., 413, 415
Sherborne, G.W.A.M., at, 199
Sherwin, Charles, 229
Sherwin, J. K., 229
Sherwood Forest, 5
Shiré river, bows from, 40
Shooting, instructions in, 331; Ford on, 331; principles of success, 332; bracing or stringing the bow, 333; unstringing, 334; Roger Ascham's five points of archery, 334; place to stand upon, 335; position, 335; firmness, elasticity, and ease, 336, 340; position of feet, 337; position to be taken up with respect to point aimed at and not the target, 339; grasping the bow, 340; right and wrong ways of holding the bow, 341–343; clear and free passage of string, 342; striking of arrow on bow, 343; position of wrist, 343; nocking the arrow, 343–345; placing the fingers on the string, 345–347; drawing with the fingers, 347; decision of point of aim, 348; drawing up of the arrow, 348 *et seq.*; counteracting tendency of resistance of bow when drawn, 350; tipping forward, 350; maintaining an erect position, 351, 352; drawing the arrow, 352; means to attain the true line of aim, 354–356; practising drawing movements before a mirror, 356; length of arrow, 357; angle at which bow should be held, 358; rapidity with which bow should be drawn, 358; aiming, 359; holding and loosing the arrow on the aim, 359; lines of sight, 360; direct and indirect aim, 361–363; holding, 363; dealing with nervousness, 364; incapability of holding or of loosing, 364–368; relaxation of grasp on handle of bow, 368; practice at loosing, 369; creeping of the arrow, 369; various looses, 369; proper position after drawing, 371; observations of shooters' style and position at the target, 372; the feet in loosing, 373; a 'continuous draw,' 374; importance of first finger in drawing, 375; recoil of the bow, 375; retaining the position after the loose, 376; the 'Fisher loose,' 377; dropping or lowering the left hand, 379; overbowing, 379; use of light bows at beginning of season, 380; weight of bows, 380; overshooting, 381; analysis of instructions, 382, 383; practical advice on, 388 *et seq.*
Shooting-fields, 156; round London, 166
Shooting-gloves, 81, 323; kid glove for sharp loose, 323; screw tip, 324; knuckle or parrot-beak, 324; the tab, 324–326
Shoreditch, Duke of, origin of title, 162
Shoshones, the, their use of arrows without nocks, 89
Shrewsbury, Earl of, his instructions to archers, 115
Shrewsbury, G.N.A.M. at, 189, 192
Shuckburgh, Sir Francis (Vice-President R.T.S., 1834), 235; winner of Bugle, 251
Sibley, H. H., on North American Indian shooting, 91
Siders, J. W. B. (U. S.), 453
Sidway, F. (U.S.), 450, 454
Silex arrow-heads, 18
Silver prize arrows, 214, 215
Sinews for bows, 47, 50, 64

Sioux feat with the bow, 91
Sittingbourne, Kent, archery practice at in 1583, 142
Skipwith, Rev. H., 195, 248, 255
Sling, the, 10
Slocock, A., 418
Slurbowes, 152
Sluys, archers at the battle of, 109
Smith, Dr. H., 229
Smith, T. Hogan, 418
Smyth, W. Bowyer, winner of Crunden Bugle (1842), 416
Smythe, Sir John, his 'Certain Instructions' and 'Certain Discourses,' 4; on the bow against the gun, 89, 149, 151; on bowstrings, 126; on archers' dress in 1591, 134
Snake poison for arrows, 102, 103
Snelling, Mr., 172
Solomon Islands, grooved bows in, 42; arrows in, 78
Solomon Islanders, their method of loosing, 85
Solutré, arrow-head from, 13
Soudan Arabs, use of spear by, 28
South American grooved bows, 42; method of drawing bow with foot, 85; arrow poisons, 102, 103
South Devon Archery Club, 199
Southampton, G.N.A.M. at, 194
Spedding, James, 236; winner of Crunden Bugle (1863–64), 416
Spedding, Mr., his screw tip, 324
Spens, Dr. Nathaniel, 220, 224
Spens, Dr. Thomas, 223, 224
Spider, black, use as an arrow poison, 101
Spottiswoode, W., 241
Spring-trap of the Malay Peninsula, 11
Stake, the archer's, 108; used at Agincourt, 115; 133
Standard, archery at battle the, 107
Statutes, proclamations, &c., relating to archery, 500
Staunton, W., captain's medal, 248
Steel bows, 26
Steelyard merchants, their action concerning bowstaves, 147
Stephens, Mr., quoted, 105
Stilwell, Mrs. J. F., 197
Stokes, Major, 201
Stone arrow-heads, 11–14, 18–22
Stowe, meeting at, 180
Strings. *See* Bowstrings
Strong, C. J. (U.S.), 451, 453, 461
Strychnos toxifera, an arrow poison, 102
Styward, on bows and calivers, 149
Sumpitan, or blow-pipe, 10, 102
Surrey, Earl of, his rewards for the victory at Flodden, 141
Sussex, Earl of, on archers in 1569–70, 146
Sutcliffe, Matthew, his 'Lawes of Armes,' 4, 148; on bowmen and harquebuziers, 152
Sutton, Mr. (New York), bowmaker, 468
Swan feathers for arrows, 129
Swiss lake dwellings, relics of stone and bone arrow-heads in, 12, 20, 22
Switzerland, bows exported to England from (16th cent.), 125

TAB, the, 324, 325
Tackle, archery, in the middle ages, 121; make and prices of bows, 121–123; bows imported from Venice and Naples, 122; bows from wreck of 'Mary Rose,' 124; places where bows were obtained in 1574, 124; bowstrings in 1590, 126; arrows, 126 *et seq.*;

feathers for war-arrows, 128, 129; arrow-makers, 129; arrow-heads, 129, 130, 133; bearing-arrows, 130; arms of English infantry in 1519 and 1531, 132; stakes, 132, 133; the maul or mallet, 133; dress of archers, 134; prices of archers' outfit, 134; an archer's appearance as deduced from Froissart, 135; the archer in old pictures, engravings, &c., 136
Tahiti, archery at, 98
Tarbet, Viscount (Captain-General, R.C. of A.), 219
Target-stands, 330
Targets, 329
Tassel, the, 326
Tatar tribes, their use of 'close' backing, 48; composite bow, 52
Taunton, G.W.A.M. at, 198
Taylor, H. S. (U.S.), 451, 452
Taylor, John, on Henry VIII. as an archer, 162
Teignmouth, the G.W.A.S. at, 199
Temple, Miss, Championess, 1849, 424
Tennant, Sir Emerson, quoted, 85
Thatched House, St. James's Street, 210
Thebes, Egyptian bow from, 63-67
Thelwall, Miss, Championess, 1845, 424
Thirsk Bowmen, 184
Thompson, Maurice (U.S.), 447; his record for glass balls, 467
Thompson of Meriden, his arrows, 251
Thompson, Will H., scores of, 447, 449-453, 455, 456, 460, 467
Thothmes III., archery in the reign of, 66
Throwing-stick, the, 10
Tierra del Fuego, stone arrow-heads in, 18
Tillie, Dr. J., on arrow-poison, 101
Tippermuir, bowmen at battle of, 158
Tips, 346, 378. *See* Shooting-gloves
Tonga Islands, grooved bow at, 41, 42; rat-shooting with bow, 99; featherless arrows, 99
Tower of London, crossbow winders in the, 115; bows from the 'Mary Rose,' 124
Townsend, F., 248, 251, 254
Towton, archery tactics at the battle of, 112, 113
'Toxophilus,' Roger Ascham's, 4, 164
Tradesmen's Society of Archers, Kilwinning, 216
Trained bands (1595), armed with calivers instead of bows, 152; exercise combining use of bow and pike, 155
Troward, Mr., 413; his long shot, 427
Tschutshis of Eastern Siberia, their bows, 52
Tunbridge Wells, G.N.A.S. at, 191
Turkish bow, Mahmoud Effendi's 52; diminutive, 53, 55; modern, 64; method of loose, 82; composite, 103; penetration of arrows from, 431
Turner, Miss, Championess, 1889, 424
Turner, Sir James, advocates (1670) the revival of military archery, 158
Tylor, E. B., cited, 12, 14

UNION Society, at Harlow, 209; manner of scoring, 209; colours of members, 210
United Bowmen of Philadelphia, 446

Unyamwezi, their skill with the bow, 11
Upas-tree, poison for arrows, 102
Upson, C. S. (U.S.), 451, 453

VAUXHALL targets of R.T.S., 228
Veddahs, their furrowed bows, 42–44 ; method of loosing, 85
Venice, bows exported to England from, 122, 125
Victoria, Queen, interest in R.B.B., 180 ; member of Guild of St. Sebastian, Bruges, 180
View bows, 119
Villani, on the speed of discharge with the long-bow, 115
Villiers, Miss, 189 ; Championess, 1851, 424
Villiers Forbes, Mrs., 197
Vincent, Mr., 412

WACE, on Norman archers, 106
Wah-na-tah (Sioux chief), his feat with the bow, 91
ainwright's Inlet, bow from, 52
Wakamba, poisoned arrows of the, 100
Wales, Prince of (Albert Ed-Wward), Patron R.T.S., 1870, 236
Wales, Prince of (George IV.). *See* George IV.
Walford, J. C., winner of Crunden Bugle (1841), 416
Waller, Rev. E. A., sec. of W. of A. (1876), 245 ; captain's medal, 248
Wallis Budge, Dr., quoted, 67
Walrond, Col., hon. sec. G.W.A.S., 199, 240
Walters, R., 277, 420 ; Champion, 1879, 424
Walters, Rev. Mr., Bard of the R.B.B., 205
Walworth, F. (U.S.), Champion, 449, 450
Wanderobo, poisoned arrows of the, 100
Ward, Lord, undertakes rent of the R.T.S. ground in Regent's Park, 236
Ward, R., 418
Waring, Mr. (bowyer), 427
Waring, Mr., his archery ground at Bayswater, 233 ; on Mr, Brady, 415 ; his 'Treatise on Archery,' 445, 446
Waring, Thomas, 172, 176, 177, 228, 229, 413
Warre, F., hon. sec. G.W.A.M., 198
Warrington, Miss A., 206
Wars of the Roses, use of the bow in, 112
Wasania tribe, their skill with the bow, 99 ; poisoned arrows, 100
Washington, D.C. (U.S.), 1887 meeting, 455
Waterton, Charles, on wourali arrow-poison, 102, 103 ; on the blowpipe, 102
Watts, Rev. John, 229
Weight-tester for arrows, 308
Wellsbourne Archery Society, 418
Welsh archers in 11th century, 107
Welsh tribes, penetration of their war arrows, 430
West African drawing ring, 83
West Berks Archery Society, 186, 212, 418 ; handicap (1880), 414 ; system of handicapping, 439
Western Archery Association (U.S.), 462
Weymouth, G.W.A.S at, 198
Whalley, Abbot of, requisitioned for archers, 134
Whitfield, Mrs. S. A. (U.S.), 452
Wild, Mrs. C. R. (U.S.), 451, 452
Wilkinson, P., 187
Wilkinson practice medal, 276
Willett, A. L., 254, 255

William IV., his gifts to the R. C. of A., 221; patron of R.T.S., 233, 235
Williams, Miss M. L. (U.S.), 459
Williams, R., jun. (U.S.), 450–453, 456, 460, 463–465, 467
Williams, Sir R., 148; on bowmen and harquebuziers, 152
Willis, E. R., winner of Crunden Bugle (1868), 417
Wills bequeathing bows, arrows, and quivers, 118, 119; bequeathing feathers, 128
Wilmot, Sir Eardley, his bow, 251
Wilson, Mr., 418
Wiltshire arrow-box, 329
Winchester, the G.N.A.S. at, 191
Winchester, Statute of, repealed, 144
Windsor Forest A.S., 418
Wise, H., 255
Wissmann, Major, on African bows, 40, 41
Wolff, Charles G., 229
Wood, Rev. J. G., on North American poisoned arrows, 95; on Andamanese archery, 97; on Bushman archery and arrow-poisons, 101; on the sumpitan of Borneo, 102; on the making of wourali, 102
Wood, Sir William, 170–172
Wood's 'Bowman's Glory,' quoted, 162, 175
Woodmen of Ansty and Shilton, 257
Woodmen of Arden, at Cannock Chase in 1791, 178; at Highgate (1792), 178; exchange of freedom with R. C. of A., 222; adherence to obsolete statutory distances, 242; celebration of centenary, 243; meeting at Meriden, 243; fourth Earl of Aylesford first warden, 244; arrangements of the interior of the Forest Hall, 244; various secretaries, 244; rules and orders of the wardmote, 245; members, 245; second Sir Robert Peel a member, 245; presentation prizes, 246; targets, 246; mode of shooting at the butts, 246; visits from other societies, 247; contest between Mr. Nesham and Major Fisher for Jubilee prize (1885), 247; competition for captaincy, 247; holders of captain's medal, 248; warden's medal, 248; contests for Arrow and Bugle, 248, 253, 255; marking at the clout: accidents at Meriden, 249; Mr. Ford at the clouts in 1851, 250; bows preserved in the Forest, 251; the Aylesford family, 251; winners of Bugle, 251; arrows, 251; mode of aiming, 252; contests with Royal Scottish Archers, 252, 255, 256; new shooting conditions, 254; challenge cup, 256; ladies' days, 256; badge, 256; presentation of miniatures to ladies, 256; antiquated customs, 256; presentation to Woodmen of Ansty and Shilton, 257
Woods, American, suitable for bows, 469
Worcester, G.N.A.M. at, 189, 190, 194
Wourali (or curare), its manufacture a religious ceremony, 102; test of its power, 103
Wright, Charles, 229
Wutah drawing rings, 83
Wyburgh, Mr., 178
Wyld, W., 418
Wylde, Miss, Championess, 1847, 424
Wynne, Mr., 178
Wynnstay, meeting of R.B.B. at, 205

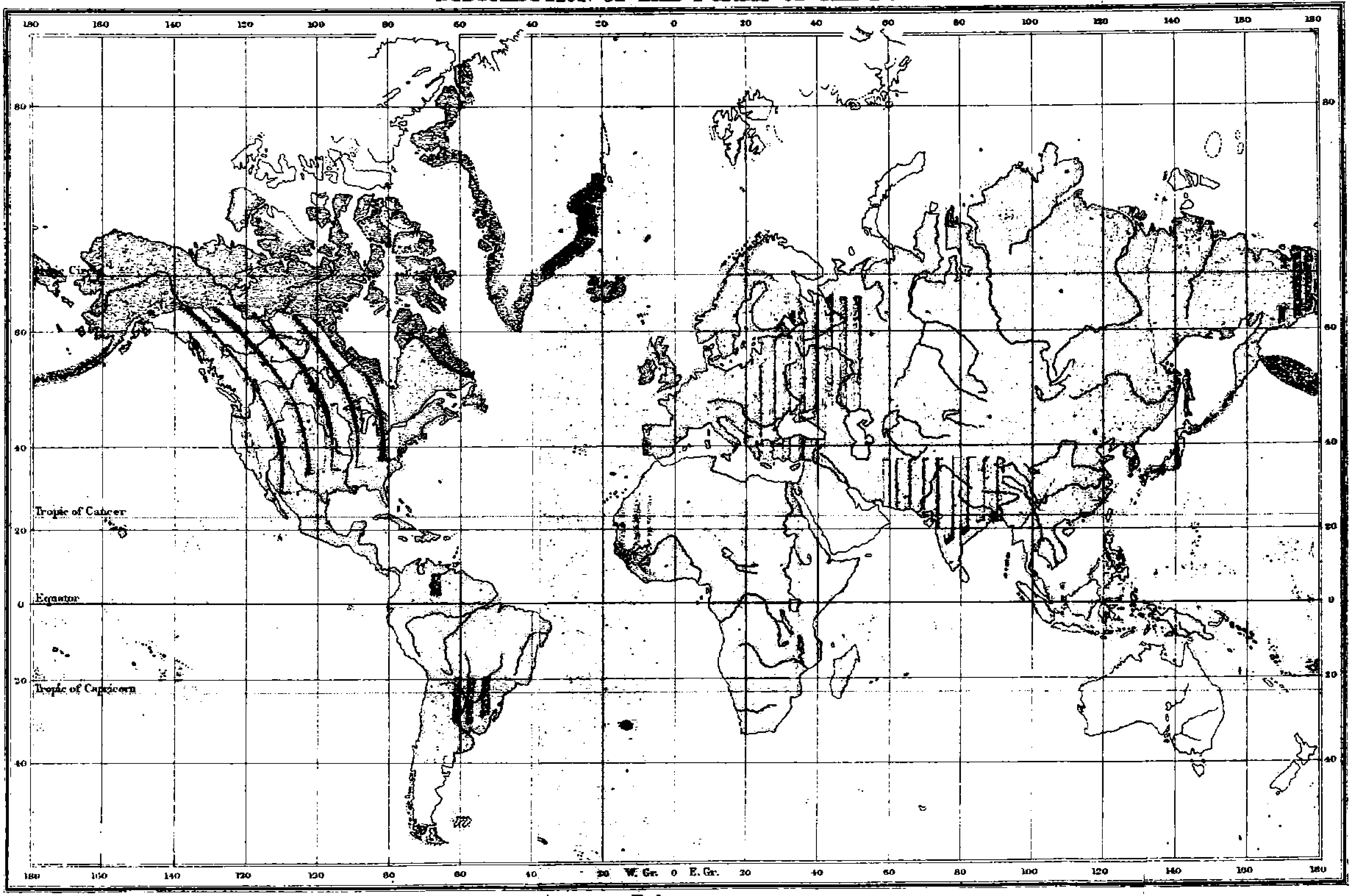
Xerxes, the archers in his army, 72

YATES FOOT, Mrs., 197
Yew bow, ancient, found at Cambridge, 16; difficulty of obtaining English wood for, 16; manufacture of, 286 *et seq.*
Yolba fibre, for strings of Andamanese bows, 36, 38
York, meetings at, 181, 185-187, 194; G.Nor.A.M. at, 201
York Round, scores of 500 and upwards made since its institution, 240; American records at, 449 *et seq.*

ZANZIBARESE, shooting of the, 100
Zingari Archers, West of Scotland, 217
Zulus, their use of the spear, 29

PRINTED BY
SPOTTISWOODE AND CO., NEW-STREET SQUARE
LONDON

DISTRIBUTION OF THE FORMS OF THE BOW



Reference

Plain bows of wood only.

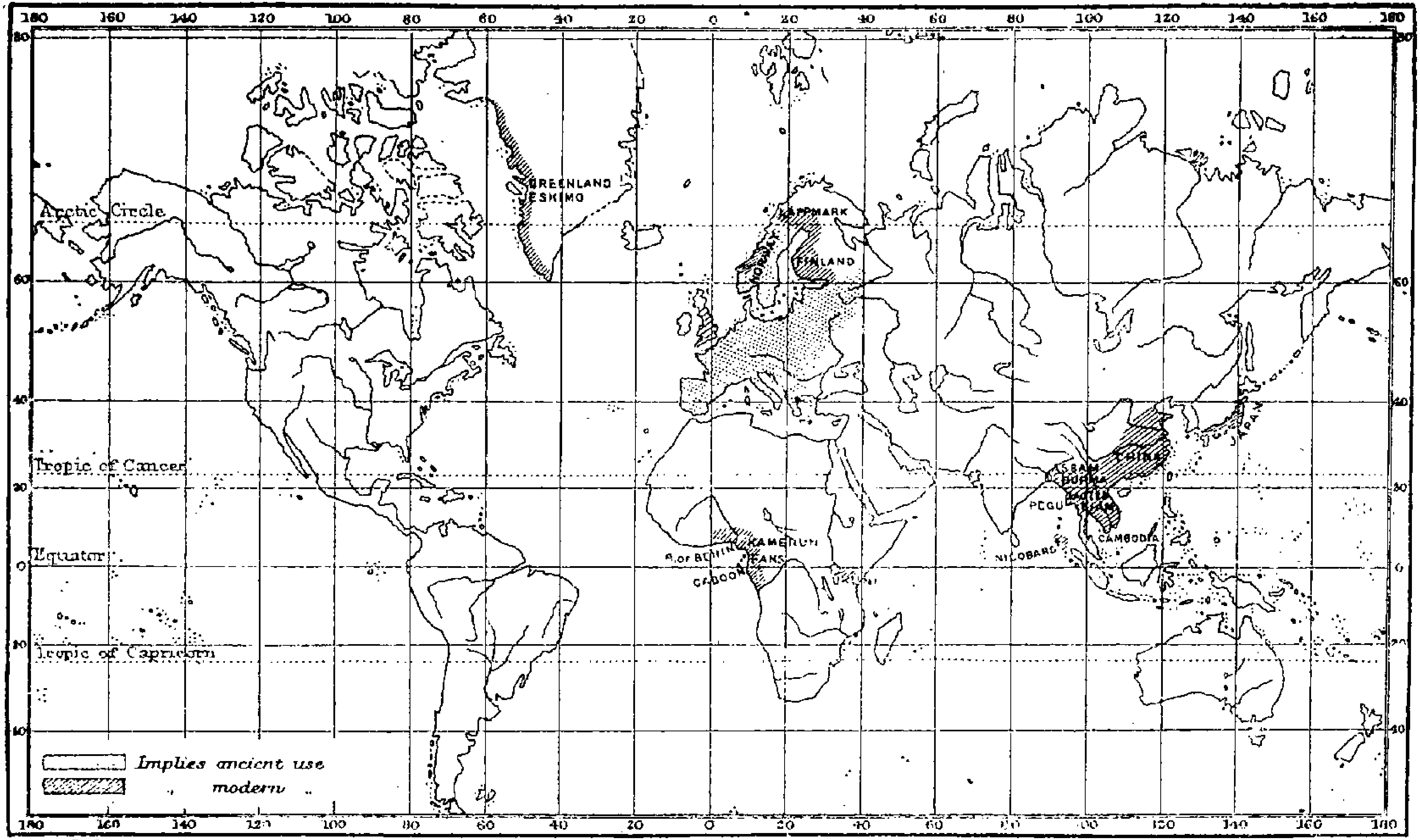
Plain bows of forms allied to those of Composite bows.

Composite bows with a 'free' backing of thongs.

Composite bows with a 'close' backing of moulded sinews.

Longmans, Green & Co. London & New York

CROSSBOWS



Henry Balfour fecit F. S. Weller.

Longmans Green & Co, London & New York.

(BLANK PAGE-NO CONTENTS)

THE BADMINTON LIBRARY.

Edited by the DUKE OF BEAUFORT, K.G. and A. E. T. WATSON.

ARCHERY. By C. J. LONGMAN and Col. H. WALROND. With Contributions by Miss LEGH, Viscount DILLON, Major C. HAWKINS FISHER, Rev. EYRE W. HUSSEY, Rev. W. K. R. BEDFORD, J. BALFOUR PAUL, &c. With 198 Illustrations. Crown 8vo. 10*s.* 6*d.*

ATHLETICS AND FOOTBALL. By MONTAGUE SHEARMAN. With 51 Illustrations. Crown 8vo. 10*s.* 6*d.*

BIG GAME SHOOTING. By CLIVE PHILLIPPS-WOLLEY. With Contributions by Sir SAMUEL W. BAKER, W. C. OSWELL, F. J. JACKSON, WARBURTON PIKE, F. C. SELOUS, &c.

Vol. I. Africa and America. With 20 Plates and 57 Illustrations in the Text. Crown 8vo. 10*s.* 6*d.*

Vol. II. Europe, Asia, and the Arctic Regions. With 17 Plates and 56 Illustrations in the Text. Crown 8vo. 10*s.* 6*d.*

BOATING. By W. B. WOODGATE. With an Introduction by the Rev. EDMOND WARRE, D.D. and a Chapter on 'Rowing at Eton' by R. HARVEY MASON. 49 Illustrations. Cr.8vo. 10*s.* 6*d.*

COURSING AND FALCONRY. By HARDING COX and the Hon. GERALD LASCELLES. With 76 Illustrations. Cr. 8vo. 10*s.* 6*d.*

CRICKET. By A. G. STEEL and the Hon. R. H. LYTTELTON. With Contributions by ANDREW LANG, R. A. H. MITCHELL, W. G. GRACE, and F. GALE. 64 Illustrations. Cr. 8vo. 10*s.* 6*d.*

CYCLING. By VISCOUNT BURY, K.C.M.G. (the Earl of Albemarle), and G. LACY HILLIER. 89 Illustrations. Cr. 8vo. 10*s.* 6*d.*

DRIVING. By His Grace the DUKE OF BEAUFORT, K.G. With 65 Illustrations. Crown 8vo. 10*s.* 6*d.*

FENCING, BOXING, and WRESTLING. By WALTER H. POLLOCK, F. C. GROVE, C. PREVOST, E. B. MICHELL, and WALTER ARMSTRONG. With 42 Illustrations. Crown 8vo. 10*s.* 6*d.*

FISHING. By H. CHOLMONDELEY-PENNELL. With Contributions by the MARQUIS OF EXETER, HENRY R. FRANCIS, Major JOHN P. TRAHERNE, FREDERIC M. HALFORD, &c.

Vol. I. Salmon and Trout. 158 Illustrations. Crown 8vo. 10*s.* 6*d.*

Vol. II. Pike and other Coarse Fish. 133 Illustrations. Cr. 8vo. 10*s.* 6*d.*

GOLF. By HORACE G. HUTCHINSON, the Right Hon. A. J. BALFOUR, M.P. Sir WALTER G. SIMPSON, Bart. LORD WELLWOOD, H. S. C. EVERARD, ANDREW LANG, and other Writers. With 89 Illustrations. Crown 8vo. 10*s.* 6*d.*

[OVER.

London: LONGMANS, GREEN, & CO.

THE BADMINTON LIBRARY.

Edited by the DUKE OF BEAUFORT, K.G. and A. E. T. WATSON.

HUNTING. By the DUKE OF BEAUFORT, K.G. and MOWBRAY MORRIS. With Contributions by the EARL OF SUFFOLK AND BERKSHIRE, Rev. E. W. L. DAVIES, DIGBY COLLINS, Sir MARTEINE LLOYD, GEORGE H. LONGMAN, J. C. GIBBONS, and ALFRED E. T. WATSON. With 60 Illustrations. Cr. 8vo. 10*s*. 6*d*.

MOUNTAINEERING. By C. T. DENT, with Contributions by W. M. CONWAY, D. W. FRESHFIELD, C. E. MATHEWS, C. PILKINGTON, Sir F. POLLOCK, H. G. WILLINK, and an Introduction by Mr. JUSTICE WILLS. 108 Illustrations. Cr. 8vo. 10*s*. 6*d*.

RACING AND STEEPLE-CHASING. *Racing:* By the EARL OF SUFFOLK AND BERKSHIRE and W. G. CRAVEN. With a Contribution by the Hon. F. LAWLEY. *Steeple-chasing:* By ARTHUR COVENTRY and ALFRED E. T. WATSON. With 58 Illustrations. Crown 8vo. 10*s*. 6*d*.

RIDING AND POLO. By Captain ROBERT WEIR, Riding Master, R.H.G. and J. MORAY BROWN. With Contributions by the DUKE OF BEAUFORT, the EARL OF SUFFOLK AND BERKSHIRE, the EARL OF ONSLOW, E. L. ANDERSON, and ALFRED E. T. WATSON. With 59 Illustrations. Crown 8vo. 10*s*. 6*d*.

SHOOTING. By LORD WALSINGHAM and Sir RALPH PAYNE-GALLWEY, Bart. With Contributions by LORD LOVAT, LORD CHARLES LENNOX KERR, A. J. STUART-WORTLEY, &c.

Vol. I. Field and Covert. With 105 Illustrations. Crown 8vo. 10*s*. 6*d*.
Vol. II. Moor and Marsh. With 65 Illustrations. Crown 8vo. 10*s*. 6*d*.

SKATING, CURLING, TOBOGGANING, and other ICE SPORTS. By J. M. HEATHCOTE, C. G. TEBBUTT, T. MAXWELL WITHAM, the Rev. JOHN KERR, ORMOND HAKE, and HENRY A. BUCK. With 284 Illustrations. Crown 8vo. 10*s*. 6*d*.

SWIMMING. By ARCHIBALD SINCLAIR and WILLIAM HENRY, Hon Secs. of the Life-Saving Society. With 119 Illustrations. Crown 8vo. 10*s*. 6*d*.

TENNIS, LAWN TENNIS, RACKETS, and FIVES. By J. M. and C. G. HEATHCOTE, E. O. PLEYDELL-BOUVERIE, and A. C. AINGER. With Contributions by the Hon. A. LYTTELTON, W. C. MARSHALL, Miss L. DOD, H. W. W. WILBERFORCE, H. F. LAWFORD, &c. With 79 Illustrations. Crown 8vo. 10*s*. 6*d*.

YACHTING. By LORD BRASSEY, R. T. PRITCHETT, the EARL OF ONSLOW, G. L. WATSON, E. F. KNIGHT, &c.

Vol. I. Cruising, Construction, Racing Rules, &c. With 114 Illustrations. Crown 8vo. 10*s*. 6*d*.

Vol. II. Yacht Clubs, Yachting in America and the Colonies, Racing, &c. With 195 Illustrations. Crown 8vo. 10*s*. 6*d*.